

MONTHLY

EPIC!

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

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PRELIMS + MAINS

PREPARATION

October 2022

I enrolled myself in the Forum Mains Guidance Program + for GS and Essay test series. The answer writing practice and written feedback from Forum alongwith 'Best answers' and topper's copies provided helped me improve my answers and get a high score in my General Studies papers.

Ayush sir's regular articles were also fun and encouraging reads - I thank the ForumIAS team for their guidance during my two year association with them.

Shruti Sharma
AIR 1, CSE 2021

forumIAS has been an integral part of my upsc journey, right from my very first attempt. The prelims and mains test series have helped me a lot and I have referred to them in all my three attempts. One on one session with Ayush sir for interview was beneficial too. Always enjoy reading his articles on the forumIAS blog.

With Best wishes,



Anirudh Dodiya
AIR 5, CSE 2021

5 students in Top 10 and 57 students in Top 100 Ranks List of CSE 2021 are ForumIAS Academy students. Total 303 selections out of 685 vacancies.

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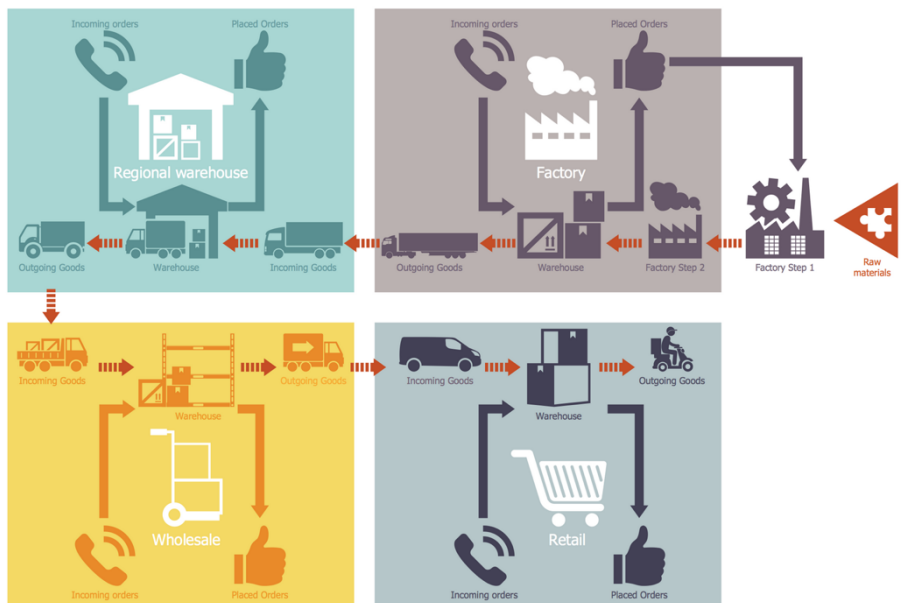
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Logistics Sector and National Logistics Policy

News: The Government has released the new Logistics Policy. The focus of the policy is on streamlining processes, reducing costs, and push skilling and employment opportunities.

What is the current status of India's Logistics Sector? – (1) Logistics refers to the overall process of managing how resources are acquired, stored, and transported to their final destination. It includes all activities of the **supply chain** such as **transportation, warehousing, packaging, inventory management, the flow of information, order processing and customer service**; (2) In 2019, India's logistics sector was valued at US\$ 190 billion. The sector employed over 22 million people directly. It is expected to grow at a growth rate of 8-10% over the medium term; (3) The **World Bank Logistics Performance Index 2018** (latest available) had ranked India 44th out of 160 nations. India's Logistics Sector **performed poorly on Customs** (efficiency of clearing process/speed, simplicity etc.) and **Infrastructure** sub-indices. It adds to the costs of logistics. According to one estimate, India's logistics sector records relatively higher costs at 13-14% of the GDP. (~8-10% for developed economies).



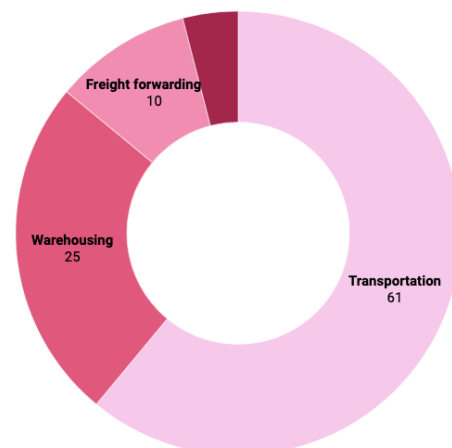
What are the challenges facing India's Logistics Sector?

– (1) **Skewed Multimodal Mix:** The sectoral share in India is ~60% roads, ~32% Railways and ~5% waterways. Global average is ~25% roads and ~60% for railways. Share of railways is lower in India because of over-saturated rail networks and high rail tariffs. Road is an inefficient way of transportation because of poor infrastructure, slower speed of movement, multiple check-points etc. The **skewed modal mix raises costs of logistics**. Reports suggest that **higher logistics cost is leading to a competitiveness gap** of US\$ 180 billion for India, impacting India's exports. The difference will increase to US\$ 500 billion by 2030; (2) **Port Sector Issues:** The turnaround times for ships is high (~62 hours in 2020-21, ~8 hours in Japan). This is due to: (a) Overcrowded berths; (b) Delay in cargo evacuation due to poor infrastructure;

Transportation activities drive a bulk of India's ₹16tn logistics market

Share in India's logistics market (%)

Transportation Warehousing Freight forwarding Value added logistics



(c) Time consuming custom clearances. Coastal shipping gets hampered due to the weak land side and port facilities. Insufficient depth at ports discourage large vessels, thus curbing the large scale use of it for freight movements; (3) **Tax Structure:** The complicated tax regime with multiple State and Union taxes lead to considerable loss of time in transit on roads; (4) **Warehousing Issues:** Many warehouses are located in remote locations with poor connectivity to save on land costs but adds to logistics time. Storage facilities are quite fragmented for low margin products thereby resulting in a **disincentive to create a large integrated warehousing space**; (5) **Technological and Skill Deterrents:** Automation of processes is still in the embryonic stage in India. **Non-standardization** in the industry due to its fragmentation slows down the progress. There is lack of quality workforce, and the available skill set needs to be upgraded urgently; (6) **Fuel Costs:** Higher fuel prices increase the cost of transportation. This reduces profitability of the logistics sector; (7) **Government Regulations:** The regulatory environment is very complex as there are over 20 government agencies, 37 export promotion councils, 40 Participating Government Agencies (PGAs), and 500 certifications. Carriers face significant compliance regulations imposed by State Governments and local authorities. It causes time overruns and disruption in supply chains; (8) **Fragmented Sector:** Unorganized players control 90% of the logistics market. Most Indian logistics companies are very small, and have limited fleet of trucks/vehicles. Fragmentation: (a) Prevents scale and cost economies; (b) Leads to low margins that **prevent investments** to scale-up operations or adoption of new efficient digital technologies; (c) Makes it hard to streamline supply chains.

Costs shoot up due to heavy dependence on roads

Transportation cost by each mode (₹ per tonne per km)



India's high logistics costs are impacting its competitiveness adversely

Logistics cost, as a % of GDP



What steps have been taken by the Government? – (1) Logistics Division: The Government established a Logistics Division in the Department of Commerce in 2017. It has been tasked with undertaking the **integrated development of Logistics Sector**. Its key responsibility is to develop an action plan to facilitate the overall development of the logistics sector through policy changes, procedure improvements, identification of bottlenecks and gaps, and adoption of technology (2) **Infrastructure Initiatives:** The Government has launched sectoral initiatives like **Sagarmala** for shipping, **Bharatmala** for road and UDAN for aviation. In October 2021, **PM Gati Shakti** was launched as a National Master Plan for multi-modal connectivity to bring together 16 ministries, for integrated planning and coordinated implementation of infrastructure connectivity projects; (3) **Technology:** Better technology has been adopted to strengthen the logistics sector. For example, paperless export-import trade operations have been made possible by the **e-Sanchit portal**, and faceless evaluation in customs has been implemented. **E-way bills** and **FASTag** are also frequently used on roads to boost the effectiveness of the logistics industry. Also, a unified tax system like Goods and Services Tax (**GST**) enables ease in issues related to the logistics sector; (4) **Logistics Policy:** The Government has formulated the National Logistics Policy.

What are the salient provisions of National Logistics Policy? – There are 4 major steps to be implemented under the NLP through the **Comprehensive Logistics Action Plan (CLAP): (1) Integration of Digital System (IDS):** There will be digital integration of 30 different systems from 7 departments, integrating data from the road transport, railways, customs, aviation, and commerce departments; (2) **Unified Logistics Interface Platform (ULIP):** This will ensure **smoother cargo movement**. It will enable the exchange of information

confidentially on a real-time basis. This National Industrial Corridor Development Corporation (NICDC) Logistics Data Bank Project has been leveraged. This will **bring all the digital services related to the transportation sector into a single portal**, freeing the exporters from a host of very long and cumbersome processes;

(3) **Ease of Logistics (ELOG)**: It will enable and ensure the ease of logistics business through

transparency and accessibility.

Through this portal, industry associations can directly take up any such matters which are causing problems in their operations and performance with the government agencies; (4) **System Improvement Group**: It will monitor all logistics-related projects regularly.

Apart from the above, CLAP envisages **benchmarking service**

standards, human resource development, capacity building, development of logistics parks etc.

National Logistics Policy

• Vision

- **Enhance competitiveness** of logistics sector through a unified policy environment and an integrated institutional mechanics.
- **Boost economic growth**, provide **employment opportunities**, and make Indian products more competitive in the global market.

• Targets of NLP

- **Reduce logistics cost** in India by 5 percentage points of GDP over the next 5 years (from current 13-14% of GDP to 8-9% of GDP the current global benchmark).
- **Improve the ranking in Logistics Performance Index**, to be among top 25 countries by 2030.
- Create data driven decision support mechanism for an efficient logistics ecosystem.

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How National Logistics Policy addresses challenges of India's Logistics Sector? – (1) Reduce Costs: The policy paves way for **reduction in logistics cost in the country**. Focus will be on enabling adequate development of warehouses with optimal spatial planning. Establishing multi-modal logistics parks (MMLPs) will improve first- and last-mile connectivity. This will enable better inventory management making **the supply chains more efficient bringing down the costs**; (2) **Reduce Delays:** Promotion of standards, measures to facilitate seamless coordination between different stakeholders, speedy issue resolution, and streamlined EXIM processes will reduce unnecessary delays; (3) **Better Tracking:** Measures to improve digitization, automation across the logistics value chain and better track and trace mechanisms will enable faster movement of goods and reduce wastage in transit; (4) **Human Resource Development:** The Government will offer management courses around Logistics and Supply Chain. This will lead to human resource development to create an employable pool of skilled manpower, for the sector's growth; (5) **State Coordination:** All States and UTs have been fully onboarded for policy implementation. 14 States have already developed their respective State Logistics Policies on the lines of the National Logistics Policy. The institutional frameworks under PM GatiShakti will monitor implementation of the Policy and are fully operational. Coordination with States will **help reduce bottlenecks in inter-state movement of goods**; (6) **Competitiveness:** The policy supports enhancing competitiveness of MSMEs, and other sectors such as agriculture and allied sectors, fast moving consumer goods and electronics. Greater predictability, transparency and reliability will reduce the need for huge inventory and wastages in supply chain; (7) **Integration with GVCs:** Proper implementation of the policy will result in **greater integration with global value chains** and higher share in global trade besides facilitating accelerated economic growth.

(Refer EPIC September 2022 for Building Resilient Global Value Chain Linkages in India).

What more steps can be taken going ahead? – (1) The focus should be on correcting the modal mix. Efforts must be made to **make the Dedicated Freight Corridors (DFCs) operational** at the earliest which will help in improving the share of the railways in logistics; (2) **Inland waterways** have remained underdeveloped. They provide a cost-efficient and environment-friendly way to move goods. Inland port development must become a priority for the Government; (3) A technology-driven documentation approach would highly impact the logistic sector by avoiding transit delays and untimely deliveries caused due to improper documentation; (4) The focus

has to be on the implementation of the policy. There should be **periodic review** to check for the outcomes and course-correction.

India aims to become US\$ 5 Trillion economy in the near term and a developed economy by 2047. For this, connectivity and robust infrastructure will become crucial points, and the NLP provides the required boost for the sector to this effect. As logistics develop, manufacturing and other industries like warehousing will also develop. This will help greater integration of Indian industry with GVCs and make India a manufacturing hub.

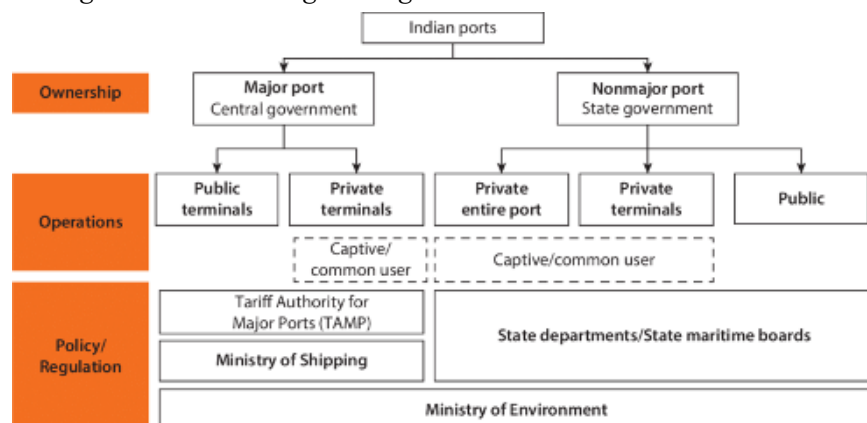
Port Infrastructure in India

News: The Union Government has prepared a new Draft Ports Bill, 2022. It is intended to revamp the Indian Ports Act, 1908 to reflect the present-day frameworks.

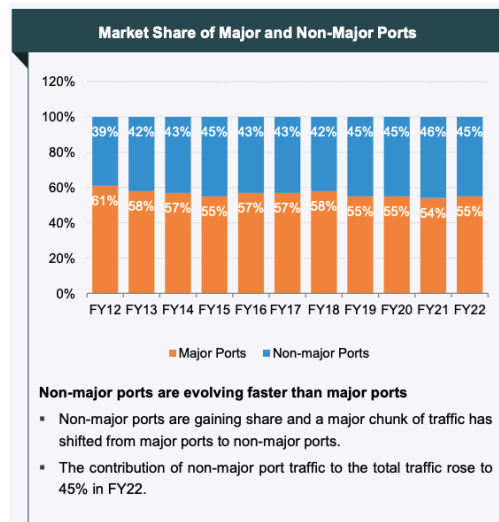
What is the current status with respect to port infrastructure in India? – (1) According to the Ministry of Ports, Shipping and Waterways, India has 12 major ports and 200 non-major ports; (2) The **Major Ports Authorities Act, 2021** is applicable to **11 Major ports**, (Chennai, Cochin, Deendayal Port (Kandla), Jawaharlal Nehru (Nhava Sheva), Kolkata, Mormugao, Mumbai, New Mangalore, Paradip, V.O. Chidambaranar (Tuticorin) and Visakhapatnam). Port Blair was declared as **13th major port** via a notification in 2010, although there were considerations to scrap the major port status in 2017. In 2020, the Union Cabinet had given ‘in-principle’ approval for **Vadhavan** (in Maharashtra) **to be developed as a Major Port**; (3) Mundra is the largest private container port in India; (4) Most of the non-major ports are small fishing harbour, and only a few of them cater to international shipping. **Major ports are listed in the Union List** and come under the jurisdiction of the Union Government. **Non-major ports are in the Concurrent List** and come under the respective state governments, but the Centre has overriding legislative and executive powers.

What are the Institutional Arrangements governing the Ports Sector in India? – (1) Apart from the Indian Ports Act, 1908, the Major Ports are governed by the **Major Port Authorities Act, 2021** which repealed the earlier Major Port Trusts Act, 1963; (2) In 1997, a **Maritime State Development Council (MSDC)** was created by an **Executive order**, with the Union Minister of Shipping as chairperson and the Ministers in charge of ports of the maritime States/Union Territories (UTs) as members. The MSDC serves as an **apex advisory body** for the **coordinated development** of major ports and non-major ports.

What is the current status of India's Maritime Trade and Cargo Handling? – (1) Over **95% of India's trade by volume** and **65% by value is done using maritime transport facilities** at ports. Merchandise exports reached US\$ 417.81 billion in FY2021-22. Increasing trade is translating into higher demand for containerisation due to their efficiency; (2) The capacity of ports has risen to 1,514 million tonnes (MT) in FY2018-19, from 505 MT in FY2006-07. Cargo traffic handled by India's major ports grew to 720.29 MT in FY2021-22; (2) **Turnaround time** at major ports in India has decreased at a rapid pace from 82.32 hours in FY2016-17 to 59.51 hours in FY2018-19. Turnaround



time at major ports was 62.16 hours in FY2020-21. (Turnaround time refers to the time that is taken between the **arrival of a vessel and its departure**. Average turnaround time is influenced by factors such as type of cargo, parcel size and entrance); (5) Non-major ports are evolving faster than major ports. A major chunk of traffic has shifted from major ports to non-major ports. The contribution of non-major port traffic to the total traffic rose to 45% in FY2021-22 (8% in 1993-94). The 2011 World Bank Report, 'Regulation of the Indian Port Sector', observed that non-major ports are perceived as more business-oriented, customer-friendly, cheaper, and, in general, more efficient. On the other hand, unnecessary regulatory and financial burdens are imposed upon port trusts, private terminal operators, and investors by the Union Government.



What are the key challenges faced by the Port Sector in India? – (1) Infrastructure Bottleneck: Indian ports suffer from **lack of capacity** and **low productivity**. The high turnover time and freight costs make Indian ports **less competitive**. Turnaround time (62.16 hours) is poor compared to global standards e.g., Japan (8.16 hours), Taiwan (10.56 hours), Hong Kong (12.48 hours) have much better turnaround times. Poor planning has meant that India's port expansion has not been commensurate with rise in cargo traffic; **(2) Logistics Bottleneck:** The port productivity and efficiency depend upon the quality and reliability of road and rail connectivity, and adequate storage and handling facilities. The lack of expressway connectivity between major ports and industrial clusters, high fuel cost make hinterland transportation inefficient and slow; **(3) Technology Bottleneck:** Major international ports are using advanced innovations and information technology to change the way goods are transported between port terminals. End-to-end solutions and online tracking systems streamline the flow of information between trading partners. In India such smooth information flow between customs, ports, inland terminals and shippers is limited. This reduces efficiency; **(4) Regulation Bottleneck:** The port operations are marred by complex custom procedures, regulations, and lengthy documentation process. In major ports like Singapore, modernized custom administrations have adopted a highly selective procedure for examinations of containers and ~95% of containers are allowed clearance without any physical examinations. In India, rules require 10% of the contents of each box to be checked and verified. It causes delay, and adds a high transportation costs.

Draft Ports Bill, 2022

- The Draft Indian Ports Bill has a 4-fold primary objectives
 - Promote integrated planning between States and Centre/States through a consultative and recommendatory framework.
 - Ensure prevention of pollution measures for all ports in India while incorporating India's obligations under international treaties.
 - Address lacunae in the dispute resolution framework.
 - Usher-in transparency and cooperation in the development and other aspects through the use of data.
- The Bill is aimed at ensuring streamlined and homogenised development in the maritime sector.
- Some redundant provisions of the Indian Ports Act, 1908 Act have been deleted or replaced with contemporary provisions.

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What steps have been taken by the Government for developing Port Infrastructure in India? – (1) The government has allowed FDI of up to 100% (automatic route) for projects related to the construction and maintenance of ports. Indian ports have received cumulative FDI inflow worth US\$ 1.63 billion between April

2000 and June 2021; (2) Major Port Authorities Act, 2021 has replaced the Major Port Trusts Act, 1963. The new Act aims to **decentralise decision-making** and reinforce excellence in major port governance; (3) **Project UNNATI** has been launched to identify opportunity areas to improve operations of key ports. Under the project, 116 initiatives were identified, out of which, 98 initiatives have been implemented, as of September 2020; (4) A new **Captive Policy for Port Dependent Industries** has been prepared to address the challenges of renewal of concession period and scope of expansion; (5) Private ports enjoy **price flexibility** as the Government allows non-major ports to determine their own tariffs in consultation with the State Maritime Boards. At major ports, tariffs are regulated by the Tariff Authority for Major Ports (TAMP); (6) **Model Concession Agreement (MCA)** has been finalised to bring transparency and uniformity to contractual agreements that major ports would enter with selected bidders for projects under the build, operate and transfer; (7) A **10-year tax holiday** has been provided to enterprises engaged in the business of developing, maintaining and operating ports, inland waterways and inland ports.

Issues with the Draft Ports Bill, 2022

- The Draft Bill seeks to give statutory status and wide ranging powers and functions to the MSDC. The nature and quantum of work of MSDC do not call for a statutory or permanent status.
- The proposed composition of the MSDC favors the Union Government.
- The performance of non-major ports has been better than major ports in recent times. The Union Government should delegate more control to State Governments rather than centralising through MSDC.

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What more steps can be taken going ahead? – Suggestions have been provided in the report titled “**Promotion of Infrastructure in India’s Maritime Sector**” by the Ministry of Ports to improve the port infrastructure and efficiency; (1) Government should **formulate policies for generation of employment opportunities** in various activities of construction, operations and maintenance of projects in regard to creation of Coastal Economic Zones (CEZs), Coastal Economic Units (CEUs), Port-Linked Industrial & Maritime Clusters and Smart Industrial Port cities; (2) The Ministry should **develop an efficient system** which can support **seamless movement of cargo** across all modes. The Ministry should emphasize all the Major/Minor Ports to **enhance the productivity and infrastructure**; (3) Ways should be chalked out to link Private Ports with the Major/Minor Ports in order to cater to the growing requirement for import/export of manufactured goods/raw materials; (4) The Ministry of Ports should work towards establishment of solar power plants and wind power generation units on the unutilized land. This will help reduce the burden on non-renewable resources of energy and to increase the employment; (5) In order to accommodate big vessels, infrastructure capable of handling bigger ships is required; (6) Government should remove bottlenecks in land acquisition and environmental clearances.

Sagarmala Programme

- **Sagarmala Programme** has been launched to promote **port-led development** in India.
- It aims to harness the **coastline**, 14,500 km of **potentially navigable waterways** and strategic location on key international maritime trade routes.
- The vision of the Programme is to **reduce logistics cost** of international and domestic trade with minimal infrastructure investment. This includes:
 - Reducing the cost of transporting domestic cargo.
 - Lowering logistical cost of bulk commodities by locating future industrial capacities near the coast.
 - Improving export competitiveness by developing port proximate discrete manufacturing clusters.
- The Sagarmala programme has identified 504 projects under **4 pillars**:
 - 211 **port modernisation** projects.
 - 199 **port connectivity** projects.
 - 32 **port-led industrialisation** projects.
 - 62 **coastal community development** projects.
- These projects are expected to mobilise more than Rs. 3.57 Lac Cr of infrastructure investment.

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Making India a developed nation will require rapid economic growth supported by domestic demand, investments and robust exports. Maritime trade and port infrastructure will play a vital role in achieving a robust growth in exports. Thus the Government has to support the development of world-class port infrastructure in India to make Indian ports and exports globally competitive.

General Studies Paper I

1. Repatriation of Artefacts from the West to Former Colonies

News: There has been a demand to return the Kohinoor diamond to India post the death of Queen Elizabeth II. Australia and the US have returned several artefacts recently.

What are the arguments in favour of repatriation? – (1) Artworks or artefacts belong to the cultures which produced them and are part of citizens' identities; (2) **Restorative justice** prescribes that stolen or looted property should be returned to the rightful owner; (3) Through the denial of return of artefacts, the colonial ideology appears to continue; (4) People are deprived of the opportunity to view artwork created by their ancestors as travelling to Europe or the US is beyond their capacity.

What are the counter arguments from the West? – (1) Many artefacts were **legally acquired** while some like the Kohinoor diamond were **gifted**. Therefore, they cannot be returned to the previous colonies; (2) The boundaries of old colonies have been redrawn. Old Kingdoms from where artefacts were taken are now divided into multiple nations. Their exact location of origin is not clear. Hence, it's difficult to return them to a particular country; (3) Returning of cultural objects cannot end the colonial history of the countries. Imperialism is part of modern world history; (4) Returning artefacts may endanger them since some of the countries of origin do not have the **means to protect these cultural objects** and face unending conflict. They are better protected and secure in Western museums; (5) Western museums showcase art and cultures from different countries. Therefore, they reflect the common heritage of mankind.

What are the international laws for repatriation of the artefacts? – (1) The **1954 Hague Convention on the Protection of Cultural Property** was signed after the destruction of cultural property during World War II. The convention commanded its signatories to safeguard and respect cultural property; (2) **UNESCO Convention (1970) on the Means of Prohibiting and Preventing the Illicit Import, Export and Transfer of Ownership of Cultural Property** permitted return of stolen objects to rightful owners if there was proof of ownership; (3) **UNIDROIT Convention on Stolen or Illegally Exported Cultural Objects (1995)** advocated the return of the illegally exported artefacts to their country of origin.

These conventions have led France in 2017 and Netherland in 2019 to return the artefacts acquired during the colonization to their country of origin.

This shows that there has been some progress in repatriations. However, most repatriations need case-to-case intervention which is time consuming. In the case of India, **Antiquities and Art Treasures Act, 1972** that seeks to protect our cultural properties needs urgent amendment.

What are the provisions under Antiquities and Art Treasures Act, 1972? – (1) Section 3 of Antiquities and Art Treasures Act, 1972 prohibits export of antiques or art treasures. It can only be exported through the Union Government; (2) Punishment for the offence under Section 3 ranges from 6 months to 3 years of **simple imprisonment**. Cultural crimes are treated as minor offences in India and Indian laws are ineffective. Laws in countries like Egypt and China prescribe death penalty for cultural crimes.

What can be the course of action? – (1) There is a need to include art and culture in school and college syllabi as children do not have any knowledge of Indian heritage; (2) Art and culture should not be confined to museums

PT BOX

Article 51(f)

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

and its awareness should be spread within the public; (3) NGOs trying to bring back art treasures should be encouraged. For example, India Pride Project; (4) Art objects and historical monuments at the Local, State and National level need to be catalogued, photographed and geotagged; (5) There should be stricter punishment for stealing artefacts. (Refer EPIC April 2022 Retrieving Stolen Idols and Artefacts from Abroad).

2. Urbanization and Urban Planning in India

News: India is set to undergo rapid urbanization in the coming decade. Reforms in Urban Planning are necessary to ensure sustainable urbanization in India.

What are the challenges to Urbanization in India? –

(1) **Uneven urbanisation:** The distribution of urban centres and the pace of urbanisation is not uniform across the country. Over 75% of the urban Indian population is in 10 States: Maharashtra, Uttar Pradesh, Tamil Nadu, West Bengal, Andhra Pradesh, Gujarat, Karnataka, Madhya Pradesh, Rajasthan, and Kerala; (2) **Statutory Towns Growing Without ‘Master Plans’:** Master Plans are statutory instruments to regulate the present and future urbanization (like utilisation of land, expansion, and zoning of cities for 20–25 years). According to a NITI Aayog Report, **~50% of India’s statutory towns are expanding without any master plan** with no local government responsible for infrastructure development. They continue to be governed as villages. This leads to haphazard and unplanned growth; (3) **Improper Implementation:** Even when master plans exist, there are several challenges during their implementation like delays, disputes in courts etc. Some master plans get amended multiple times during their implementation; (4) **Sub-Optimal Utilisation of Urban Land:** Ministry of Housing and Urban Affairs (MoHUA) noted that congested land parcels of high population densities, co-exist with vast parcels of under-utilized lands. This is due to poor record of land ownership. Multiple public sector organizations (Port Authorities, Railways, ULBs, etc.) own land under their jurisdictions. Non-optimal utilization creates scarcity of land which raises land price and reduces space for affordable housing; (5) **Magnitude of Population Living in Slums:** 17.3% of the total urban population was under slums in India (Census 2011). 70% of this slum population was concentrated in 6 States: Maharashtra (18.1%), Andhra Pradesh (15.6%), West Bengal (9.8%), Uttar Pradesh (9.5%), Tamil Nadu (8.9%) and Madhya Pradesh (8.7%). Lack of affordable housing is contributing to creation and expansion of slums; (6) **Increasing Risk of Water Scarcity in Cities:** The World Wide Fund for Nature India (2020) has found that Indian cities dominate current and future lists of global cities with the highest overall water risk. There is a lack of adequate infrastructure in cities and towns to handle wastewater and solid waste; (7) **City Planning for Disaster Mitigation:** The aspect of disaster mitigation is missing in growth of Indian cities. NITI Aayog notes that lack of proper attention to disaster mitigation in City plans leads to long lasting impacts on the local water availability and vulnerability to disasters. The Parliamentary Standing Committee on Home Affairs observed that the encroachment of lakes and riverbeds had played a major role in urban flooding in Chennai; (8) **Pressures on Coastal Habitations:** The coastal cities are home to 14% of the population in India and are vulnerable to floods due to multiple causes like

Some Facts About Urbanization in India

Urbanization is the key to India’s future

- 1 Cities in India occupy just 3% of the land, but contribute ~60% to the GDP.
- 2 India is the **second largest urban system** in the world. ~11% of the total global urban population is living in Indian cities.
- 3 India’s urban population is expected to cross 50% of total population within the next two decades.
- 4 The Ministry of Finance (2021) noted that ~33% poor people in India live in urban areas, which was ~12% in the early 1950s.

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Census and Statutory Towns

Census Town

- A Census Town is an area with urban characteristics like:
 - A minimum population of 5,000.
 - At least 75% of the male main working force engaged in non-agricultural activities.
 - Population density of at least 400 persons per sq. km.
- According to Census 2011, there are **3,784 Census Towns**.

Statutory Town

- A Statutory Town is one with a Municipality, Municipal Corporation, Cantonment Board or Notified Town Area Committee.
- The rules vary with States. In West Bengal, conditions for Statutory Town status include a minimum population of 30,000 while for Himachal Pradesh it is 2,000.
- According to Census 2011, there are **4,041 Statutory Towns**.

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faulty urban design and planning, dynamic coastline, flash floods, storm surges, cyclones, and tsunamis. Coastal habitations and infrastructural investments are vulnerable to rise in sea levels due to climate change and cyclones.

The present urban chaos in India is mainly the result of **ineffective and inefficient urban management, multiplicity of authorities, inadequate revenue base, lack of coordination between various municipal agencies**, and the non-participatory attitude of stakeholders.

What steps can be taken to improve the process of Urban Planning? - Sustainable urbanisation requires a balance between the development of urban areas and protection of the environment with an eye to equity in employment, shelter, basic services, social infrastructure, and transportation in urban areas. In this context, an Advisory Committee of the NITI Aayog has provided recommendations in the '**Reforms in Urban Planning In India**' Report: **(1) Planning of healthy cities:** There is a need for convergence of multi-sectoral efforts in planning, public health, and socio-economic development. The focus of planning urban development must encompass not only the million-plus cities but also hundreds of small- and medium-sized towns. The Report has recommended a central sector scheme '**500 Healthy Cities Programme**', for a period of 5 years, wherein priority cities and towns would be selected jointly by the States and the local bodies; **(2) Optimum utilisation of urban land:** All the cities/towns under the proposed 'Healthy Cities Programme' should **strengthen regulations to maximize the efficiency of urban land** (or planning area). The Committee has recommended review and revision of regulations for this purpose; **(3) Ramping up of human resources:** The public sector must have an adequate workforce in terms of

quantity and quality to tackle the challenges of urbanization. The Committee has recommended that the States/UTs should hire for vacant positions and sanction new town planners; **(4) Ensuring qualified professionals for undertaking urban planning:** The discipline of urban/town planning has a dedicated course curricula with which graduates acquire a multi-sectoral skillset to address the challenges. The States may need to undertake

requisite amendments in their recruitment rules to ensure the entry of qualified candidates into town planning positions; **(5) Mainstreaming capacity-building activities:** Concerted efforts are required by the States/UTs to ensure regular capacity building of their town planning staff. The existing Centres of Excellence established by MoHUA and State-level training institutions need to be further strengthened; **(6) Re-engineering of urban governance:** There is a need to bring in more institutional clarity by re-engineering the present urban-planning governance structure with clear division of roles and responsibilities among various authorities. Extensive adoption of technology can enable public participation and inter-agency coordination; **(7) Involvement of citizens in Planning:** It is important to include public opinion and feedback in the planning process. The Committee has recommended a '**Citizen Outreach Campaign**' for making the process of urban planning more inclusive and accessible; **(8) Building local leadership:** It is important to enlighten the city leadership through training about the significance of urban planning to achieve integrated development, mobilize finances, ensure affordable housing, and make cities more economically productive, liveable, inclusive and sustainable; **(9) Steps for enhancing the role of private sector:** Concerted measures must be taken to strengthen the role of the



Source: UN/DESA, Development Policy and Analysis Division.

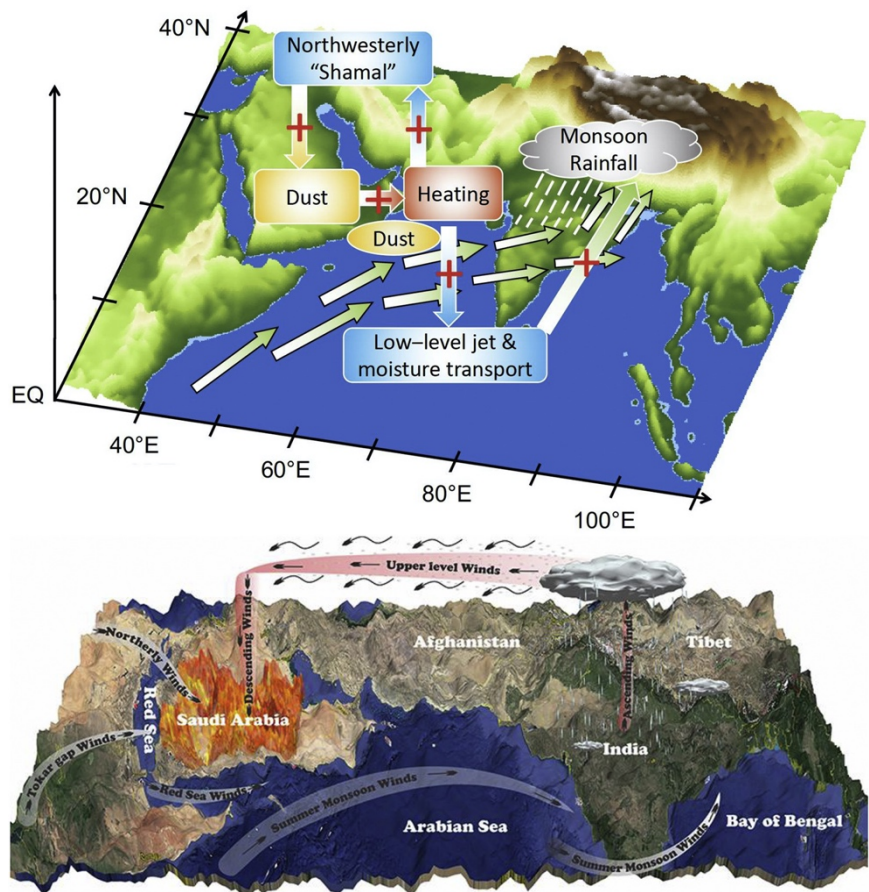
private sector to improve the overall planning capacity. These include technical consultancy, and enhancing management skills in the public sector.

The cities and their infrastructure are coming under increasing pressure of urbanization. It is thus imperative to enhance the urban planning capacity of the ULBs. As India transitions to an urban society it has become vital to ensure that the growth of cities is sustainable and inclusive in the future.

3. Impact of Climate Change on Monsoons

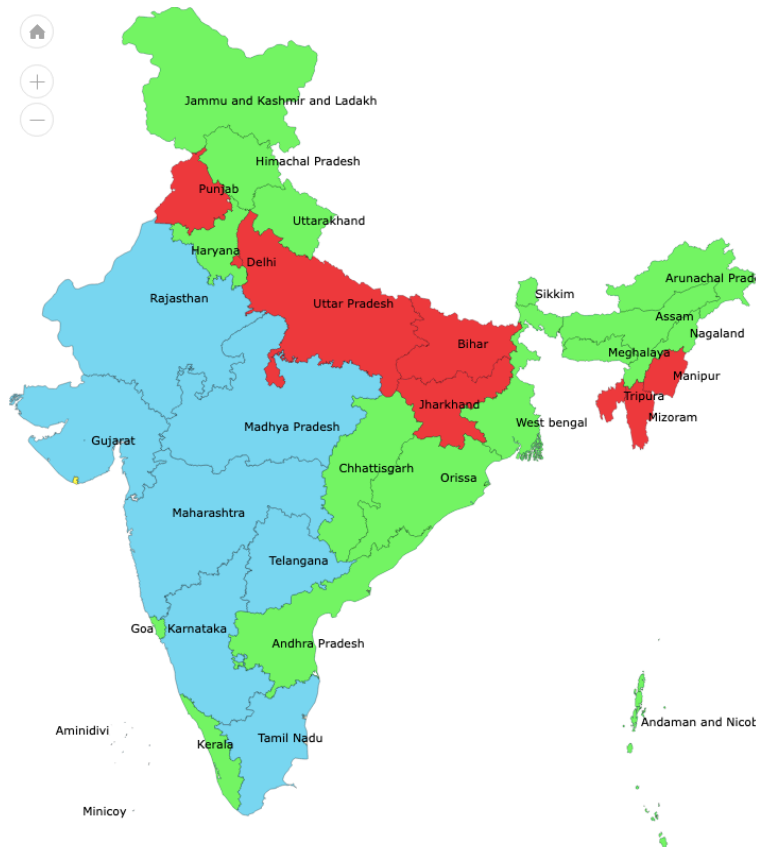
News: Scientists have attributed the rising erratic behaviour of Monsoon to Climate Change.

What are the impacts of climate change on Monsoon? – (1) **Excess Rainfall:** (a) Researchers at Indian Institute of Tropical Meteorology (IITM) Pune, have observed that for **every 1°C rise in temperature**, the atmosphere can **hold 7% more moisture**; (b) Researchers from Germany's Potsdam Institute for Climate Impact Research (PIK) found that **every additional degree of warming is likely to increase monsoon rainfall by 5%.**; (c) There is a strong relationship of the monsoon with **sea surface temperature (SST)**. Global Oceans have absorbed 90% of the excess heat generated by man-made climate change in the past 50 year leading to increase in SST. SST effects the monsoon circulation. Climate change is **weakening the land-sea temperature gradient** (the thermal contrast), thus drying the monsoon circulation. But there is an **increase in moisture in the air** because of rise in SST. So plenty of rainfall occurs despite weaker circulation. Excess and extreme rain events over central India have increased threefold between 1950–2015, despite a weakening in overall monsoon circulation; (2) **Impact of Events in the Middle-east:** According to a study published in the journal 'Earth Science Reviews', events in the Middle-east are also impacting Monsoons. Dust particles swept into the atmosphere from deserts in the Middle East grow extremely hot under sunlight. They change the air pressure over the Arabian Sea. This creates a kind of heat pump in the sky, which **drives moisture from above the ocean to the Indian subcontinent, leading to a wetter monsoon season.** This then strengthens winds and could whip up even more dust particles creating a positive feedback loop; (3) **Inconsistent rainfall across time and space:** A recent research paper noted that human-wrought climate change



Circulation above the Indian subcontinent and the Middle East.

is making the Indian summer monsoon **wetter and more erratic** with wide regional variations. In 2022 season, 7 states have received deficient rainfall. Of them, 3 are from the North East. The Central and South Peninsula regions witnessed excess rainfall. According to the climate change assessment for the Indian region (2020) released by the Ministry of Earth Sciences, the **frequency of localised extreme single-day rain events** exceeding 150 mm per day **increased by ~75% between 1950 and 2015**. IMD has noted that **2022 season has seen the second highest extreme events** since 1902. (Refer EPIC July 2022 for Erratic Monsoons in India); **(4) September a 'new August', October an anomaly**: Monsoon rainfall data for the last 10 years shows a trend of increasing rain in September and widely varying patterns in October. Several districts in Uttar Pradesh witnessed floods in October 2022, a rarity. National and international assessments have flagged these increasingly varying patterns. IMD has noted the pattern of **late withdrawal of Monsoon**; **(5) Climate change contributes to monsoon uncertainty**: According to the **6th Assessment Report** of the Intergovernmental Panel on Climate Change (IPCC, Working Group I), there has been a noticeable decline in rainfall, with **monsoon deficits occurring with greater frequency in various regions of South Asia**. Since 1950, the frequency of moderate rain events has decreased. The IPCC's assessment also projected increased monsoon rainfall and intensifying monsoon extremes in India and South Asia by the end of the 21st century; **(6) Rare Events**: **(a)** The formation of a tropical storm (Cyclone *Gulab*) in September 2021 was another rare event. Cyclone *Gulab* was only the third cyclone in the 21st century to form in September. It had formed in the Bay of Bengal. After making landfall over coastal Andhra Pradesh, the remnants of *Gulab* crossed over peninsular India to the **Arabian Sea**, where it re-emerged as Severe Cyclonic Storm *Shaheen*. This was an extremely rare event; **(b)** The ongoing **La-Niña event in the Pacific Ocean has entered its third year**. This is one of the longest ever La-Niña episodes in recorded history and only the third episode since 1950 to stretch into a third year.



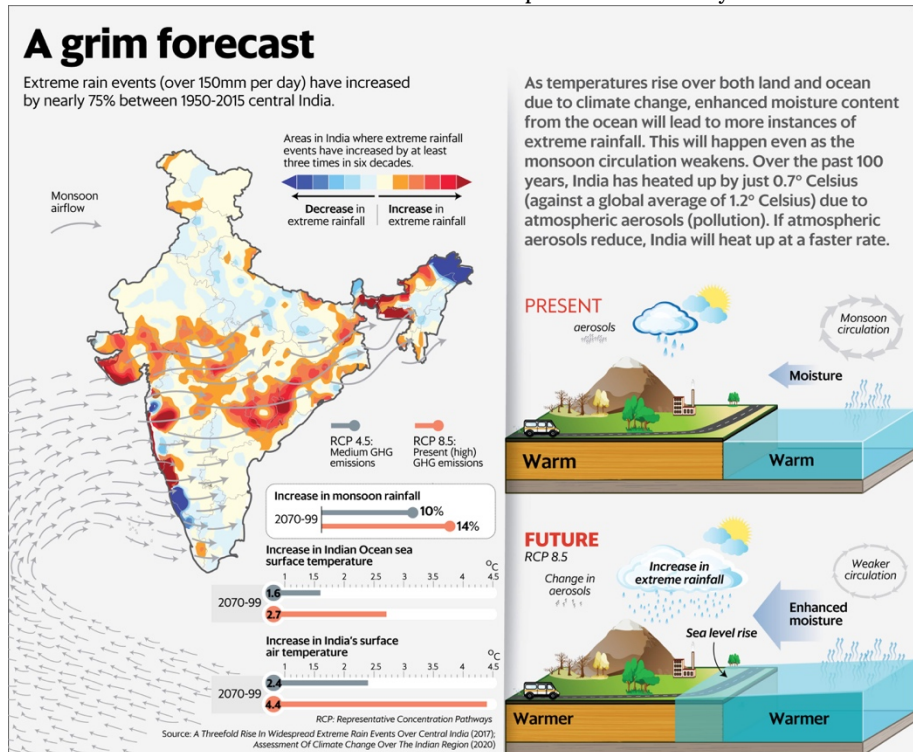
Source: IMD. Most regions in South and Central India have received excess rainfall (blue, 20-59% more than long term average). The deficit regions (red, 20-59% less than long term average) are in the Northwest, East and Northeast Regions.

What are the impacts of Variability in Monsoon? - According to an analysis by a team of German researchers, the shift in monsoon pattern may entail grave

THE NEW MONSOON NORMAL

STATION	ONSET		WITHDRAWAL		Existing dates for normal onset and withdrawal of the southwest monsoon based on 1901-40 data; new dates being used by IMD from June 1, 2020 based on 1961-2019 and 1971-2019 data for onset and withdrawal respectively.
	New	Existing	New	Existing	
Hyderabad	Jun 8	Jun 7	Oct 14	Oct 15	
Pune	Jun 10	Jun 9	Oct 11	Oct 6	
Mumbai	Jun 11	Jun 10	Oct 8	Sept 29	
Ahmedabad	Jun 21	Jun 14	Sept 30	Sept 22	
Kolkata	Jun 11	Jun 10	Oct 12	Oct 14	
Lucknow	Jun 23	Jun 20	Oct 3	Sept 30	
New Delhi	Jun 27	Jun 23	Sept 25	Sept 22	
Chandigarh	Jun 26	Jul 1	Sept 22	Sept 22	

consequences for India's economy, food systems and people's well-being: **(1) Floods, Landslides, Lightning: Loss of Lives and Livelihoods:** The extreme rainfall events have increased the frequency of floods, including in urban areas. Almost 2,000 people have died due to extreme weather events such as floods, landslides and lightning across 396 districts of the country in the 2022 Monsoon season. Himachal Pradesh recorded 320 deaths due to frequent cloudbursts, flash floods and landslides. Lightning killed ~536 people in the country in the 4 months of the monsoon, ~160 in Madhya Pradesh alone. Over 1.5 million hectares of cropland was destroyed and close to 70,000 animals, mostly livestock, killed due to extreme weather events; **(2) Agriculture Output:** The variability in Monsoon has impacted the cropping systems. The *kharif* season is almost entirely dependent on the monsoon. Both *kharif* and *rabi* crops are affected by the **changing arrival and withdrawal patterns** of the monsoon. Heavy rainfall in September **reduces yields of short-duration kharif crops** such as groundnut, urad, soybean, and maize, and disrupts storage and transportation, potentially leading to **food inflation and a food crisis**. Scarce rainfall in UP and Bihar this season has impacted paddy sowing and reduced the acreage this season. Uneven distribution rains along with increasing temperatures and humidity can give rise to **pest attacks and diseases**. This can, in turn, impact the quality and nutritious value of food.



What should be done going ahead? – There is general consensus among the scientists that **Climate Change is already here** and the rising variability in Monsoons is a clear evidence. India is one of the most vulnerable to the impacts of climate change. **(1)** India must prepare to **adapt to the impacts of climate change**. This includes measures like: **(a)** More robust flood management practices including in urban areas; **(b)** Adoption of climate resilient agriculture systems among others; **(c)** The Government should continue to pursue its **mitigation measures promised under Paris Agreement**; **(2)** The Government must press the developed countries for **Climate Finance** and **Technology transfer** to hasten the processes of mitigation and adaptation. It is only through collective efforts that the scourge of climate change can be tackled; **(3)** IMD should invest more in setting up new stations, collecting data, etc. to augment its capacity in forecasting amidst changing patterns.

The Indian summer monsoon plays a crucial role in India's agriculture and affects the livelihood of 20% of the world's population. Erratic monsoon season poses a threat to the agriculture and the Indian economy. The Government must step up its efforts to combat the negative impacts. At the same time, these extreme events should provide a wake-up call to the global leadership regarding the impacts of climate change. They should now act earnestly to address the exigencies of climate change.

1. Referral of Bills to Department Related Standing Committees (DRSCs)

News: The number of Bills being referred to Department Related Standing Committees for scrutiny has been decreasing consistently.

Why should the Bills be referred to DRSCs? – (1) Thorough Deliberations: Parliamentary Committees meet throughout the year and hence can deliberate thoroughly on issues for a longer time compared to discussion for a limited time during the Session; **(2) Expert Opinion:** Parliamentary Committees can summon external domain experts (Non-members of the Parliament) like Doctors, Economists, Defence experts to discuss important issues and incorporate their view in the Legislation which is not possible in the floor of the House; **(3)**

Consensus Building: Committees provide a forum for building consensus across political parties. In the Parliament Session, MPs stick to party lines as the debates are televised. Committees have closed door meetings, which allows them to freely question and discuss issues and arrive at a consensus.

In the absence of consensus, there may be difficulty in implementation of Acts e.g., the three Farm Acts, that were passed without reference to the concerned DRSC, had to be withdrawn.

Department Related Standing Committees (DRSCs)

- DRSCs were first formed in 1993. These committees examine Bills, Budgets and Policies of Ministries.
- There are 24 such committees. Each committee has 31 MPs, 21 from Lok Sabha and 10 from Rajya Sabha.
- DRSCs are **reconstituted every year** and their work continues throughout the term of a Lok Sabha.
- The members are nominated by the Speaker/Chairperson of Lok Sabha/Rajya Sabha.
- **Ministers are not members.** Key Committees like those related to Finance, Defence, Home etc are usually chaired by MPs from the Opposition parties.
- **Functions:** DRSCs perform three important functions: **(a)** Examine Bills referred to them; **(b)** Examine implementation of Policies by the Government; **(c)** Examine the Budgetary outlays of the departments.
- **Referral:** **(a)** On Recommendation of Minister piloting the Bill to refer it to Standing or Select Committee; **(b)** Presiding Officer of the House can refer the Bill; **(c)** A Bill passed by one House can be referred to the Select Committee by the other House.
- Reports of the Committees are of **recommendatory nature** (not binding).

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What is the current trend of referral of Bills to DRSCs? –

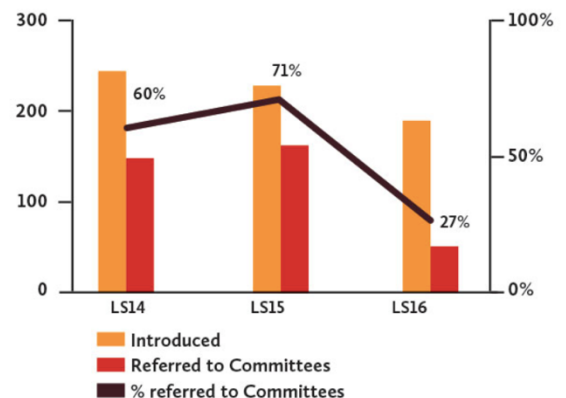
The percentage of Bills referred to the DRSCs during the tenures of the 14th (2004–2009), 15th (2009–2014) and 16th Lok Sabhas (2014–2019) has been 60%, 71% and 27%, respectively.

What should be the approach? – (1) Compulsory reference of Bills:

The process of reference of Bills to Committees should be the default process. The Speaker (Lok Sabha)/Chairperson (Rajya Sabha) can make an exception (i.e., non-referral to the Committee) providing detailed reasons for the same; **(2) Ensure frank and free discussions in DRSCs:** During the discussions of the Committee meetings, no whip of the party should apply. MPs should be

not be targeted for expressing an opinion contrary to the official position of the party on an issue; **(3) Fixed timeline for DRSCs to come up with the recommendation and present its report:** In case the Committee fails to give its recommendation within the approved/extended time, the Bill may be put up before the House concerned directly; **(4) Ensure quality work in the committee:** Consulting domain experts should be the norm. They can bring necessary expertise and also help introduce the latest developments and trends in that field; **(5) Organise Committee meetings for discussions between two sessions:** It is important for the Ministry of Parliamentary Affairs to conduct Committee meetings between

Proportion of bills referred to committees



two sessions to critically analyse the Bill within the desired timeframe; **(6) More power to discuss budget proposals:** The committees should not limit themselves to discussing just the budget proposals and endorsing them with a few qualifications or amendments. They should come up with suggestions for the Ministry to **take up new initiatives and citizen-friendly measures.** (Refer EPIC December 2021 for Functioning of the Parliament).

2. Election Commission on Political Promises

News: The Election Commission of India (ECI) has proposed to amend the Model Code of Conduct (MCC). Proposed measures have mandatory disclosure provision to require the political parties to explain the funding of the promises made in election manifestoes and their impact on fiscal sustainability.

What does the existing guidelines under the MCC? – The existing guidelines (since 2015) under the MCC require political parties and candidates to explain the logic behind the promises made and the **possible ways to finance such promises.** However, parties make routine declarations and do not provide enough information.

What are the proposed amendments? – **(1)** It will require parties to explain about the target of particular promise, the extent of coverage, the number of likely beneficiaries, and the cost of implementing it; **(2)** Parties will be expected to provide details regarding all such promises separately; **(3)** They would also need to show the income source required to fulfil all electoral promises.

What is the rationale of ECI's proposal? – **(1)** According to the ECI, it will enable healthy debate on the financial implications and fiscal sustainability of promises; **(2)** It is necessary for conducting the free and fair elections; **(3)** It will provide a framework under which a manifesto can be assessed by the voter from the perspective of its financial feasibility; **(4)** It may also make parties treat manifesto preparation as a responsible exercise meant to convince rather than attract the voter.

What are the issues associated with the amendment? – **(1) Impact on Political parties:** Political parties will have to provide plan related to expenditure cuts or assets to monetize to ensure fiscal sustainability. Requirement of such detailed information would put opposition parties in a disadvantageous position as incumbent party in power has **better access to finances and Government resources** (like bureaucracy); **(2) Impact on Election Commission:** It will put additional burden on the ECI. It will be difficult for the ECI to judge on the feasibility of the promises parties make to voters. It can lead EC to dive in the politics. Even if parties provide all details, the ECI lacks the capability to undertake analysis of the proposals.

Some political experts argue that the new proposals, with ECI intervening into freebies and acting as a judge can lead to a negative image of the ECI and endanger its credibility.

What was the earlier stand of the Election Commission? – **(1)** The ECI had stated in an affidavit to the Supreme Court in April 2022 that “irrational” and “freebie” are **subjective and open to interpretation.** A promise of one political party may be a freebie for another and vice versa; **(2)** It had declined to be part of a Committee

Judicial View on Freebies

S. Subramaniam Balaji vs Government of Tamil Nadu (2013)

- The Supreme Court had upheld the distribution of television sets or consumer goods.
- It said that the schemes targeted at women and the poorer sections were in **furtherance of Directive Principles.**
- As long as public funds were spent based approval by the Legislature, they **could not be termed a 'corrupt practice'.**
- However, it observed that distribution of freebies influences all people. It **'shakes the root of free and fair elections to a large degree'.**
- The SC directed the **Election Commission of India (ECI) to frame guidelines** to regulate the content of manifestos.
- The ECI modified the **Model Code of Conduct** to include a stipulation that parties should avoid promises *'that vitiate the purity of the election process or exert undue influence on the voters'*. Manifestos should contain the rationale for a promised welfare measure and **indicate the means of funding it.**

SC's Observations during hearings on Petition Against Freebies

- The SC remarked that 'freebies' were a serious issue and asked the Union Government to take a stand on the need to control the announcement of 'freebies' by political parties during election campaigns.
- The SC said that the freebies were paving the way for an **'economic disaster'** and *'distorting informed decision of voters'*.
- The SC suggested **setting up a specialised body** (like Finance Commission) which can dispassionately examine the question of freebies.
- To **de-register political parties** for promising freebies would be **'anti-democratic'.**

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proposed by the SC to look into the issue. The ECI had said that it would be difficult for the Commission to become the arbiter of what is or isn't a reasonable poll promise because of problems of definition. The ECI lacks powers over state policy making; (3) The ECI also told the Supreme Court that it cannot de-register political parties for offering freebies to voters.

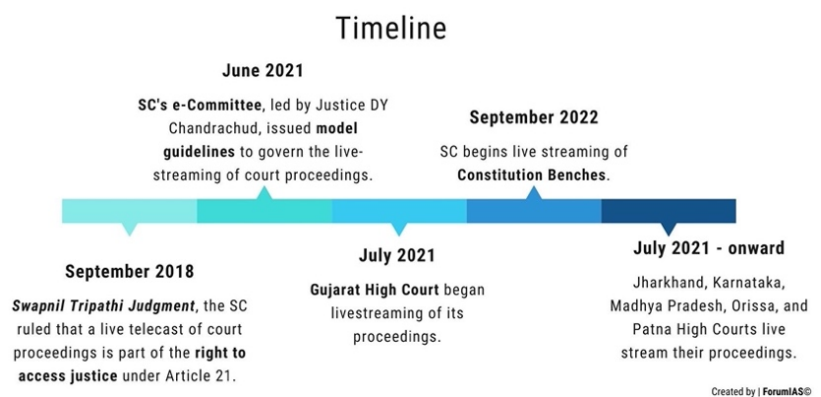
What can be the course of action? – (1) The ECI should move cautiously and make sure that the level playing field in a democracy is not disturbed; (2) It is important to have an independent fiscal body that has the expertise to evaluate Budget provisions for the Union and State Governments. Finance Commissions have recommended setting up such an institution; (3) The judgment on freebies should be left on the people. FRBM Acts should be made more stringent to encourage fiscal discipline in governance. (Refer EPIC August 2022 for The Issue of Freebies).

3. Live Streaming of Supreme Court Proceedings

News: The Supreme Court has started live streaming of Constitution Bench Cases.

What are the advantages of live-streaming of Constitution bench hearings?

– (1) It will allow everyone to watch and learn about judicial proceedings and decisions. It will increase **legal literacy** and potentially enhance the **public's engagement with the Constitution** and laws. It will help strengthen constitutional values, democracy, and citizenship; (2) It will enable people to understand the importance of the rule of law. The people will be able to see the efforts of Judiciary in protecting the rights of the poor, marginalized and disempowered sections of society. It will help enhance faith in the Judiciary; (3) This will **increase transparency** and enhance access to justice system. It will **enable greater accountability for SC Judges** and lawyers. It is expected to ensure that Judges begin proceedings on time and give equal opportunity to all sides. Due to public scrutiny lawyers will put more effort in preparation for the case, enhancing quality and standards of the legal profession; (4) It creates greater interest in crucial matters that define India's governance. Live proceedings will prove to be an invaluable resource for students and teachers of Law; (5) Live-streaming is a great enabler for litigants who are unable to attend Court; (6) A 2017 study by researchers at the North Western University (US) (based on archives of the audio proceedings of the US Supreme Court) showed that judicial interactions at oral argument are **highly gendered**, with **women being interrupted at disproportionate rates by their male colleagues**. The US Supreme Court then said that the gendered disruptions identified by the study had been addressed and now Justices ask questions according to seniority instead of interrupting in a random way. Thus openness of judicial proceedings can bring out such hidden biases.



Global Practices about Live Streaming

Practices followed by Supreme Courts across the Globe

- United States of America:** The US Supreme Court has rejected pleas for the broadcast of its proceedings. It has allowed **audio recording and transcripts** of oral arguments since 1955.
- Australia:** Live or delayed broadcasting is **allowed** but the practices and norms differ across courts.
- Canada:** Proceedings are **broadcast live** and are accompanied by **explanations of each case** and the **overall processes and powers of the Court**.
- United Kingdom:** Proceedings are **broadcast live** with a one-minute delay on the Court's website, but coverage can be **withdrawn in sensitive appeals**.

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What are the concerns of live-streaming of constitution bench hearings?

– An Ex-CJI had termed live-streaming a ‘**double-edged sword**’; because in addition to benefits, there are many concerns, : (1) Judges might be a frequent target of public ire, or a target of social media trolls; (2) Publicity-savvy lawyers might indulge in showmanship; (3) Mischievously edited footage of SC proceedings can be used to spread misinformation and lies; (4) A paper published in 2018 studied the proceedings of the Brazilian Supreme Court. It concluded that Justices behave like politicians when given free television time, they act to maximize their individual exposure.

PT BOX

Constitution Bench

Under Article 145(3) of the Constitution, the Supreme Court of India forms Constitution Benches to adjudicate on matters: (a) ‘**Involving a substantial question of law as to the interpretation of the Constitution**’; (b) Reference made by the President under Article 143.

These Benches may comprise 5 or more Judges.

What should be done in future? – Legal Experts suggest that subordinate courts should also be asked to **operate in hybrid mode**. This will spare witnesses and litigants from personal appearances and **minimise adjournments**. (Refer EPIC May 2022 for Pendency of Cases of Constitutional Importance).

4. Issues with the Collegium System

News: Two Judges of the Supreme Court Collegium objected to selection of Judges through circulation of letter rather than physical deliberations. Legal Experts have lamented the lack of transparency in the selection of Judges through the Collegium System.

What are the problems with the Collegium System? – (1) There is no check or performance evaluation of the working of the Collegium system. The appointments are not open to scrutiny; (2) It is an **extra-constitutional body** brought in existence by the Judgments of the Supreme Court; (3) The Constitution of India (Art. 124) provided that the President of India shall appoint the Judges of the SC after consulting the Court. However, the SC, through its Judgments, has **altered the meaning of consultation to mean concurrence** i.e., the Judiciary can override the opinion of the Executive; (4) The Collegium has no representation from the Government (Executive), the Bar or the Academia to have diversity of the opinion; (5) There is lack of transparency on the criteria of selection of Judges. Very little part of the process followed by Collegium has been codified after the Second and Third Judges’ case; (6) A vast majority of the Judges are elevated from the High Courts. Very few distinguished Jurists (as mentioned in Art. 124) have been appointed as Judge.

Why did the Supreme Court declared the NJAC unconstitutional? – The SC declared the National Judicial Appointments Commission (NJAC) as unconstitutional and void. The NJAC comprised of 3 Judges, the Law Minister and two eminent persons to handle the task of appointing judges. The concern was that the opinion of 3 Judges could have been overruled by the non-Judge members.

However, legal experts contend that the **SC could have struck down this provision alone rather than scrapping the whole NJAC**. The number of non-Judge members could have reduced to 2. This could have secured judicial primacy, with some executive involvement as well. NJAC could have generated more transparency and accountability in the appointment of judges.

What should be done? – Legal Experts argue that there is a need to secure a better, broad-based and transparent method of appointing senior judges to the High Courts and the Supreme Court. The Government has not been able to finalise the Memorandum of Procedure for appointment of judges due to

differences with the Judiciary. It was mandated by the Supreme Court after it struck down the NJAC. There is a need to break the logjam. The Judiciary must take an initiative, to make the process of appointments more transparent and accountable. (Refer EPIC June 2022 for Judicial Accountability in India).

5. Issues with the Working of Local Governance in India

News: The 73rd and 74th Constitutional Amendment Acts enabling local governance were made operational ~3 decades ago in March 1993. Certain loopholes in their functioning have limited their effectiveness.

What are the roles of Panchayati Raj Institution (PRIs)/Local Governance Bodies?

- PRIs play a crucial role in rural development: **(1) Administrative activities** such as the maintenance of village records, the construction, maintenance, and repair of roads, tanks, wells, and so on; **(2) Improving socio-economic welfare** through the promotion of rural industries, health, education, women and child welfare, among others; **(3) Judicial functions** such as trying petty civil and criminal cases such as minor thefts and money disputes are also performed either by separate *adalati* or *nyaya* panchayats, or by gram panchayats.

PT BOX

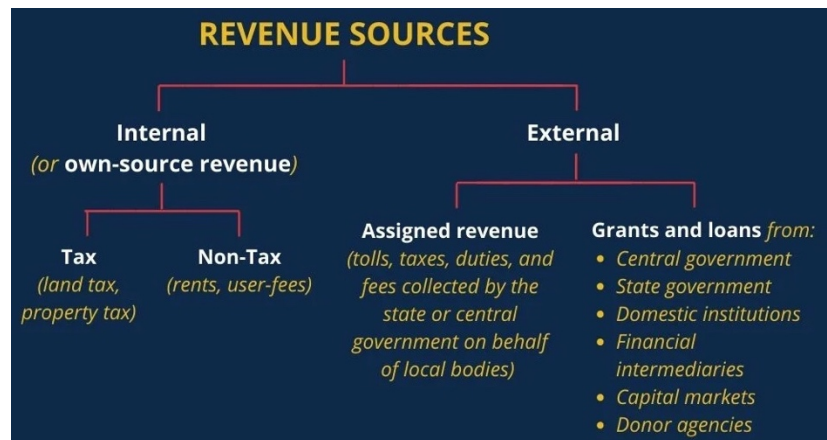
Article 40 of the Constitution of India

The State shall organise village panchayats and endow them with such powers and authority as may be necessary to enable them to function as units of self-government.

What are the challenges in working of Local Government Bodies? – Rural and Urban Local Bodies struggle with various challenges.

(A) Functional Challenges

(1) The power to devolve functions to local governments rests with the State Government. **Most States have not devolved adequate functions to local government bodies** severely affecting the system's efficiency and effectiveness; **(2)** State Governments have created **parallel structures** for the implementation of projects around agriculture, health, and education, undermining the status of local bodies; **(3)** Local bodies lack the support systems necessary to carry out their mandates. The 74th Amendment requires a **District Planning Committee** to be set up in each district, so that the development plans prepared by the panchayats and urban local bodies can be consolidated and integrated. According to a study by the India Development Review (IDR, a think tank), **District Planning Committees are non-functional in 9 states**, and failed to prepare integrated plans in 15 states.



(B) Financial Challenges

(1) Local government expenditure as a percentage of GDP is only 2% in India. This is extremely low compared to other major economies like China (11%) and Brazil (7%); **(2)** Most local bodies are **unable to generate adequate funds from their internal sources**. They are dependent on external sources for funding. Studies show that around 80–95% of revenue is obtained from external sources, particularly State and Union Government loans and grants; **(3)** The volume of money set apart for local bodies is **inadequate to meet their basic requirements**. Local Governments are starved of resources. The Union Finance Commissions have made desirable

recommendations, but the actual devolution of funds has been very poor. Less than 5% of the divisible pool of Union taxes is given to local governments; **(4) The devolution of funds is associated with conditionalities that bind them to specific uses.** (i.e., top driven schemes of Union/State Governments, rather than based on local needs). The Government-appointed officers have complete control over spending of funds instead of the elected representatives of local governments; **(5) State Finance Commissions (SFCs) are not established according to the Constitutional mandate** (constitute every 5 years). By 2014-15, all States should have created 5th SFCs in their respective States, but only 13 States had created them. By 2019, (time for 6th SFC) some States were yet to create 3rd or 4th Commissions. J&K had created only 1 SFC by April 2019; **(6) Some experts argue that Local governments are reluctant to collect property taxes and user charges** because of fear of backlash from public. They are happy to implement top-down programmes because they know that if they collect taxes, their electoral prospects will be hampered.

Status of Constitution of State Finance Commissions

States	State Finance Commissions				
	5 th	4 th	3 rd	2 nd	1 st
Assam, Bihar, Haryana, Himachal Pradesh, Kerala, Madhya Pradesh, Maharashtra, Odisha, Punjab, Rajasthan, Sikkim, Tamil Nadu, Uttar Pradesh (13)	✓				
Andhra Pradesh, Karnataka, Tripura, Uttarakhand, West Bengal (5)		✓			
Chhattisgarh, Goa, Gujarat, Manipur (4)			✓		
Arunachal Pradesh, Jharkhand, Nagaland (3)				✓	
Jammu & Kashmir, Mizoram, Telangana (3)					✓

Notes: (a) Figures in parenthesis refer to the number of states; (b) As per the 73rd and 74th Constitutional Amendments Act, 1992 three states, Meghalaya, Mizoram and Nagaland are exempted from constituting SFCs. However, Mizoram and Nagaland have constituted SFCs; (c) Telangana, the newest state of India, was formed out of Andhra Pradesh in June 2014. It constituted its first SFC in December 2017.

(C) Functionary Challenges: **(1)** Every local government needs to have organisational capacity (office, clerical staff and social mobilisers). Staffing of local governments is scanty. Many panchayats share a single secretary, who is often overburdened; **(2)** Technology has been used to centralize the delivery of local services which has been detrimental to local decision-making.

(D) Other Challenges: **(1)** Criminal elements and contractors are attracted to local government elections especially in urban areas. They are able to win elections through corrupt means, as local elections do not get same scrutiny as State Assembly or General Elections; **(2)** Elections to the local bodies are often delayed. For long period of times there are no functional local governments; **(3)** Despite a relatively higher level of literacy and educational standard, urban residents do not take adequate interest in the functioning of the urban government bodies e.g., the turnout in Municipal Elections in Delhi and Mumbai in 2017 was only 53% and 55% respectively; **(4)** While women have been empowered with representation through reservation of seats, the 'Sarpanch Pati' syndrome limits the effectiveness. ('Sarpanch Pati' syndrome: Women Sarpanch is only nominal head, the male relative (generally husband) wield actual power).

What steps can be taken going ahead? – (1) The provisions of 73rd/74th Constitutional Amendments should be implemented in true spirit. **State Finance Commissions should be regularly constituted with clearly defined Terms of Reference (ToR).** ToR should include recommendation to devolve more funds and make the functioning of local bodies more effective. Adequate powers to raise own revenues should be devolved to local governments; **(2)** The **elections should be held at regular intervals** without any delay. State Governments and State Election Commissions must be held accountable for delays; **(3) Gram Sabhas and wards committees** (in urban areas) have to be **revitalized**. Consultations with the Gram Sabha could be organised through smaller discussions where everybody can participate to make them **inclusive**. New media of communication like social media groups could be used for facilitating discussions between members of a Gram Sabha/ward committees; **(4)** Local government **organisational structures have to be strengthened**. Panchayats are burdened with a huge amount of work that other departments thrust on them, without being compensated for the extra administrative costs. Local governments must be enabled to provide quality, corruption free service; **(5)** There is a need to **improve capabilities of human resources** through training, process consultation, action research methods

and workshops; **(6) Citizen participation and engagement** in local governance can be enhanced with the **help of NGOs and civil society organizations**. Citizens also need to be informed about the functioning and consequences of decisions taken by the local government bodies. The general public also need to be informed about the role of the service providers, the cost of services, the sources of their financing etc.

Empowering the local bodies for Local Governance has been one of the most progressive reform since Independence. It has envisioned to place the governing power in the hands of the general populace. Just like every other reform, this one has a few loopholes in it. Nevertheless, if these gaps are removed, the present local governance system can truly empower the citizens and support the inclusive growth.

6. Supreme Court's Judgment on Abortion

News: The Supreme Court has held that all women, irrespective of their marital status, are entitled to safe and legal abortion till 24 weeks of pregnancy under the Medical Termination of Pregnancy (MTP) Act.

What are the provisions under the MTP Act, 2021? – **(1)** The MTP Act mandates the medical opinion of a doctor to terminate pregnancy up to 20 weeks while the advice of two doctors is needed for pregnancies between 20 and 24 weeks; **(2)** Only certain categories of women are allowed to terminate their pregnancies beyond the 20 week period: **(a)** Cases of sexual assault, rape or incest; **(b)** Women whose marital status changed during pregnancy; **(c)** Mentally-ill women, women with physical disabilities; **(d)** Women with foetal malformation; **(e)** Women with pregnancy in humanitarian settings or disaster or emergency situations as may be declared by the Government.

What is the SC's Judgment? – (1) On unmarried women seeking abortion:

(a) The Supreme Court ruled that **all women, regardless of their marital status are entitled to safe and legal abortion** till 24 weeks of pregnancy; **(b)** The SC declared that prohibiting single or unmarried pregnant women (with pregnancies between 20-24 weeks) from accessing abortion while allowing it for married women was **violative of the right to equality** before the law and equal protection (Article 14); **(c)** The SC

also held that **reproductive autonomy** required every pregnant woman to have the intrinsic right to choose to have or not have to undergo an abortion without any consent or authorisation from a third party; **(2) On minors seeking abortion:** The SC exempted the registered medical practitioners (RMPs) from disclosing to the police the identity of minors who have come in for the abortion. At present, an RMP is obliged under Section 19(1) of the POCSO Act to report to the police when a minor approach him or her for an abortion. This provision of mandatory disclosure deters adolescent girls from seeking a safe abortion; **(3) On Marital Rape:** Rape survivors who may legally seek an abortion in the extended period of 24 weeks will also include survivors of marital rape; **(4)** The SC also observed that unwanted pregnancy affects a woman's physical and mental health. So, it is quite important that she alone should decide about abortion; **(5)** The abortion rights under MTP Act are also available to cis-gender women.

Bodily Autonomy

- **UN Population Fund (UNFPA)** defines bodily autonomy as the right to make decisions over one's own life and future.
- The **UN Human Rights Office (OHCHR)** observes that Women's human rights include the rights to equality, to dignity, autonomy, information and bodily integrity and respect for private life and the highest attainable standard of health, including sexual and reproductive health, without discrimination.
- **World Economic Forum** has noted that bodily autonomy for women includes power to say no to sex with husband/partner, to decide on contraception and to make independent decisions on healthcare including reproductive healthcare which includes abortion.

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The Supreme Court has upheld the right of all women and girls to make reproductive choices for themselves, without undue interference from the State. (Refer EPIC July 2022 for Reproductive Rights in India; EPIC May 2022 for The Debate Regarding Abortion and Issues related to the MTP Act, 2021; EPIC March 2022 for The New Guidelines on Abortion by the WHO).

7. Ban on Conversion Therapy

News: The National Medical Commission (NMC) has issued a letter to all the State Medical Councils in India classifying the Conversion Therapy as 'Professional Misconduct'.

What is Conversion Therapy? – (1) It is an intervention that aims to **change the sexual orientation or gender identity** of an individual through the use of methods like psychiatric treatment, psychotherapy (talk therapy), drugs, exorcism, or even violence; (2) The goal of the therapy is to **make the individual a heterosexual**; (3) Conversion therapy also includes efforts to transform the basic identity of young people whose **gender identity contradicts their sexual anatomy**; (4) According to the British Psychological Society (BPS), conversion therapy is also called '**gay cure therapy**' or '**reparative therapy**'. It means trying to stop or suppress someone from being gay, or from living as a different gender than the sex they were born as. The BPS and the Royal College of Psychiatrists (the UK) classifies all kinds of conversion therapy are '**unethical and potentially harmful**'.

Methods of Conversion Therapy

Psychotherapy

- It includes talk therapy, behavioural, interpersonal, or cognitive therapies.
- Some teach **stereotypical masculine and feminine behaviours** or use hypnosis to try to change thought patterns for same-sex attraction.
- In '**aversion therapy**' people are exposed to **painful or uncomfortable sensations** like electric shocks and nausea- or paralysis-causing drugs. This is done in hopes of forming a **negative association** with the person's attractions or identity to 'correct' it.

Medical

- This includes **medicine, hormonal or steroid therapies**.
- Gender-affirming surgeries are also done to 'neutralise' sexual orientation especially among transgender people.

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What are the issues with Conversion Therapy? – The American Academy of Child and Adolescent Psychiatry (AACAP) has pointed out several issues with the Conversion Therapy; (1) **Incorrect assumption:** The therapies used in conversion therapy are given under the incorrect assumption that homosexuality and different gender identities are a **health or mental defect** that can be cured; (2) **Unhealthy and Hazardous:** Conversion therapy runs the danger of developing or **aggravating mental health disorders** like anxiety, stress, and drug use, which can occasionally even result in suicide; (3) **Lacks scientific credibility:** Such 'conversion treatments' lack scientific legitimacy and clinical efficacy because they are imposed with the goal of promoting a specific sexual orientation and/or gender as a desirable outcome; (4) **Treatment by Quacks:** In most cases, the treatment is provided by quacks who have very little experience in effectively addressing the problem. They end up doing psychological or physical harm to the 'patients'.

What was the ruling of Madras HC regarding Conversion Therapy? – (1) In June 2021, the Madras High Court has issued a slew of interim guidelines for the Police, Union and State Social Welfare Ministries, and the National Medical Commission to '*ensure their (of homosexual couple) safety and security to lead a life chosen by them*'; (2) The ruling prohibited any attempt to medically 'cure' or change the sexual orientation of LGBTQIA+ (lesbian, gay, bisexual, transgender, queer, intersex, asexual or of any other orientation) people; (3) It urged the authorities to take action against '*professional[s] involving themselves in any form or method of conversion therapy*' which could include the withdrawal of their licence to practise medicine; (4) In July 2022, the Madras HC further directed the National Medical Commission to '*issue necessary official notification by enlisting "Conversion Therapy" as a professional misconduct*'. The NMC issued the directive to state medical councils in August 2022; (5) The Court also ordered agencies to abide by the **Transgender**

Persons (Protection of Rights) Rules, 2020, and the **Transgender Persons (Protection of Rights) Act, 2019**, in letter and spirit. The Court ruled that it was crucial to **hold sensitisation campaigns** in an effort to fully comprehend the community and its needs.

What should be done going ahead?

(A) Legal Basis

(1) India can learn from the countries like Germany, Canada, Malta, Australia, and the US that have enacted **legislation prohibiting conversion therapy**; (2) The Mental Healthcare Act prohibits medical treatment without agreement. It can be amended to include conversion therapy as well. This is because victims may consent to conversion therapy because they have 'internalised' a mistaken idea that 'they are abnormal'.

(B) Change in Curriculum

According to the opinions of several experts, educational institutions like schools and colleges need to make modifications to their curriculum. Adolescents can be sensitized about gender identities when they are attaining maturity. Even today, homosexuality is classified as a 'perversion' and 'an act of mental degenerates' in many medical books.

(C) Sensitisation

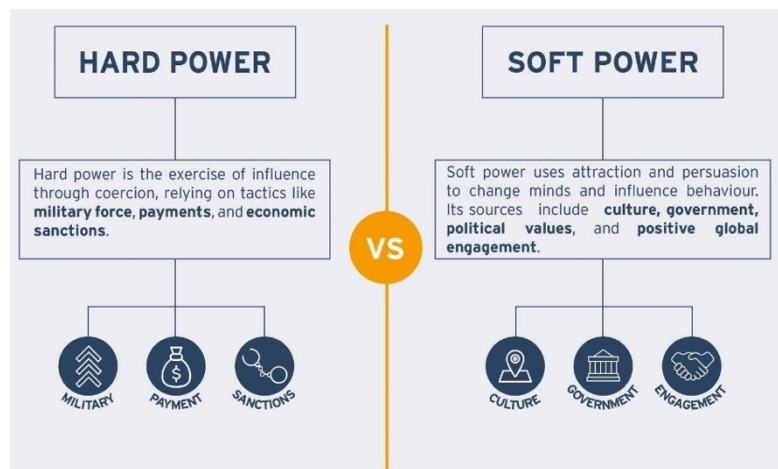
(1) People who have diverse sexual orientations or gender identities frequently share traumatic accounts of being bullied, discriminated against, stigmatised, and socially excluded from their communities. This needs to be addressed through social sensitization; (2) The initial point of misunderstanding and abuse often begins at home. Teenagers are compelled to opt for 'conversion' therapies. Parents also need to be made aware of the issues surrounding sexual orientation and gender identity; (3) The sensitization can be done through educational institutions, dedicated awareness campaigns and the involvement of civil society.

The Supreme Court's decision (2018) to decriminalise homosexuality by striking down Section 377 of the IPC and the notification issued by the NMC are welcome steps to inclusivity. However, there is still a lot to be done before the members of the LGBTQAI+ community can consider themselves to be in a more secure environment. The next step should be to bring about attitudinal change in the society through sensitization.

8. Using Sports to enhance Soft Power

News: Indian athletes are performing well at the global sporting events. Sports can play a vital role in enhancing soft power.

What is Soft Power? – (1) Soft power refers to the ability to **shape the preference of others through appeal and attraction**; (2) Soft power is in contrast to hard power which involves coercion; (3) In international affairs, Soft power works through elements like culture, political values and ideas, and building networks etc. On the other hand, hard power works through using military force or threat of force, economic sanctions and inducement of payments etc.; (4) Elements of India's soft power includes Yoga, Bollywood movies,



Indian cuisine etc. Gradually, as Indian athletes are excelling at the global sports arena, Sports is also becoming a tool of exerting soft power.

How has sports helped China in improving soft power? – China has used its superiority in sports to **build people-to-people relations** with other countries, e.g., athletes from African countries such as Madagascar are trained in swimming, badminton, table tennis, etc. in China. This has helped China to create a positive impact on a wider population which also result in **better formal relations between the countries**.

However, India has inadequately performed in sports when compared to China.

How has been India's performance in Sports? – (1) India's performance is much below China. India won 7 medals in Tokyo Olympics in 2021, which is India's highest medal tally in a single Olympic event; (2) India has won only 35 Olympics medals cumulatively till now. India has one of the world's poorest population-to-medal ratios in the Olympics; (3) This is because of relatively low exposure of Indians to sports at the elementary school level. Competent coach, adequate funding and sports academics are another major issue faced by sports in India; (4) A NITI Aayog report highlighted that India lacks a favourable atmosphere for sports to enhance the skills of early-stage athletes; (5) A Parliamentary Report provided that India spends only three paise (INR 0.03) per day per capita on sports while China spends INR 6.1 per day per capita i.e., China spends almost 200 times than India per person per day.

What steps have been taken by the Government? – The Ministry of Sports launched the **Target Olympic Podium Scheme (TOPS)** to improve India's performance at the Olympics and Paralympics in 2014. The scheme helps in extra monetary assistance and training from the best national and international coaches.

What steps can be taken to increase India's sporting performance and soft power? – (1) India should concentrate on forming MoUs with nations that excel in specific sports. The aim should be to train Indian players overseas e.g., Australia and the UK can assist us in swimming while African countries can assist in athletics; (2) TOPS has showed that focusing on a few sports is beneficial for India to enhance its sporting abilities and standing. India should increase the number of athletes under TOPS and at least 500 athletes should be trained to promote a competitive climate; (3) Private investment should be attracted to develop infrastructure. The Government should also work on a public-private partnership (PPP) model to create basic sporting infrastructure at the district level which is recommended by NITI Aayog; (4) Sports Governance bodies need to be reformed and made accountable for performance. The Government must also separate politics from sports. Former players rather than politicians should be chosen to lead sports organisations; (5) **NITI Aayog** had come with a **20-point plan** to improve India's Olympics performance in 2016. The plan should be implemented in right earnest. (Refer EPIC September 2022 for Issues in Sports Governance in India).

9. India's Overseas Development Cooperation

News: Foreign Policy Experts say India lacks comprehensive approach to manage its Overseas Development Assistance to the developing countries.

What is the current status of India's Overseas Development Assistance? – India's role in international overseas development assistance (ODA) has undergone significant transformation over the past years. India is now becoming a net donor of development assistance from being a chronic beneficiary.

(A) Funds

(1) According to the dashboard provided by the Ministry of External Affairs (MEA), between 2008–2022 (till July) India has allocated funds worth **INR 85,059 Crore** as **grants and loans**. Of this, INR 70,221 Crore has been

disbursed; (2) India's Grants and Loans are **mostly limited to neighbourhood nations:**

Afghanistan, Bangladesh, Bhutan, Nepal, Maldives, Mauritius, Mongolia, Myanmar, Seychelles and Sri Lanka. Bhutan has been by far the biggest recipient of India's ODA through loans and grants, receiving ~54% (INR 46,196 Crore) of the allocated funds; (3) The Government has provided **Lines of Credit (LoCs)** worth **US\$ 22.8**

billion between 2014-2022 (till September), with record US\$ 7.2 billion worth of LoCs extended in 2016-17; (4) India's ODA through LoCs is **more diverse with countries in Africa and Caribbean as the major recipients.** India has extended LoCs to 66 nations between 2014-22. According to data available with EXIM Bank, India has provided LoCs worth US\$ 28 billion between 2002-03 and 2018-19.

(B) Instruments

(1) India's ODA is based on a framework with 4 broad elements: (a) Lines of Credit (LOCs) under the **Indian Development and Economic Assistance Scheme (IDEAS)**; (b) Grants and Loans; (c) Capacity-building training programmes especially under the **Indian Technical and Economic Cooperation (ITEC)** programme; (d) Bilateral grant assistance projects; (2) All overseas partnerships contain some combination of the above, e.g., In Mozambique, support for solar panel production was through three elements: capacity building of scientists through training at Central Electronics, a line of credit for infrastructure support and a grant element; (3) The Government has recently taken steps toward **triangular cooperation** with few developed nations and the UN agencies. Agreements/Memorandums of Understanding (MoUs) have been signed with the **United States, the European Union, Japan, World Food Programme, the UNDP**, etc. Some triangular projects are already being implemented in Afghanistan and Africa; (4) India's ODA covers energy, commerce, culture, engineering, health, housing, IT, infrastructure, sports, science, disaster relief and humanitarian assistance, restoration and preservation of cultural and heritage assets etc.

(C) Institutional Arrangement

(1) India launched the **India Aid Mission (IAM)** in Nepal in 1952. It was later rechristened as the Indian Cooperation Mission (ICM); (2) **India Development Initiative (IDI)** was launched in 2003; (3) The **Indian Development and Economic Assistance Scheme (IDEAS)** was launched in 2005 for managing credit lines; (4) In 2007, the IDI was suspended. A new India International Development Cooperation Agency (IIDCA) was announced to be set up but it was never established; (5) A **Development Partnership Administration (DPA)** was established within the Ministry of External Affairs in 2012. It has various divisions that handle different projects and regions.

Evolution of India's Overseas Development Cooperation

- India's overseas development cooperation began right after the independence. Despite **resource constraints**, India offered its development experience to countries which wished to engage. India found its development partnership approach through the **ethos of the national movement**.
- India began with cooperative efforts for **Burma and Indonesia** in 1949, through technical cooperation.
- India's overseas development cooperation remained **unconditional** and **responsive to partner priorities**. It emphasised **capacity-building**, particularly the development of human resources e.g., India established the Imperial Military Academy in Harar, Ethiopia (1958) to train military officers of several African countries.
- India launched the **Indian Technical and Economic Cooperation (ITEC)** Programme in 1964 to undertake **capacity-building programmes**. It covered both civilian and military aspects. ITEC now **covers over 150 countries**, including in Central Asia, Latin America, the Caribbean, and the South Pacific. The ITEC programme has annual budget of ~INR 200 crores.
- India has contributed to **plurilateral funds** for achieving development goals like the **India-Brazil-South Africa (IBSA) Fund** and **India-UN Development Partnership**.

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Divisions of the DPA

The DPA has three Divisions: DPA – I, DPA – II and DPA – III. They handle different projects.

DPA-I

- All Lines of Credit (LoC), grant projects in the East, South and West African regions.
- Grant assistance projects in Bangladesh and the Sri Lanka Housing project.

DPA-II

- Over 8500 civilian and 1500 defence training slots allocated under **Indian Technical and Economic Cooperation Programme** and **Special Commonwealth Assistance for Africa Programme** to 161 partner countries. 47 empanelled institutions conduct around 280 courses annually.
- Grant assistance projects in Southeast Asia, Central Asia, West Asia and in Latin American countries.
- Humanitarian and disaster relief.

DPA – III

- Implementation of grant assistance projects in Afghanistan, Maldives, Myanmar, Nepal and Sri Lanka

Source: Ministry of External Affairs

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What are the issues in India's Overseas Development Cooperation? – (1) Poor Institutional Arrangement: The divisions of DPA lack proper structure with overlapping regional and functional jurisdictions. Ideally, divisions could have been made on a regional basis (like Africa, East Asia, Latin America etc.) or functional basis (handling LoCs, Grants, Capacity building programmes); **(2) Institutional Capabilities:** Project execution in foreign nations is a challenging task requiring management of statutory approvals, constant monitoring and coordination with foreign agencies, managing internal constraints like appraisal procedures with the Ministry of Finance, selecting competitive firms from India to undertake projects abroad etc. This requires specialized skills currently lacking in DPA when compared to other agencies like the USAID; **(3) Transparency:** There is lack of transparency and visibility in terms of allocations and outcomes. There is no central database that can provide a comprehensive visibility on all the grants/LoCs extended, projects undertaken or the capabilities developed abroad. The lack of information in public domain limits review and establishing efficacy of the India's cooperation efforts. This, in turn, undermines the accountability of the Government's initiatives; **(4) Approach:** There is no stated policy on India's ODA. This leads to lack of consistency in methods of assistance/cooperation, selection of projects, or allocation of funds. This is in contrast to Japan's ODA or China's BRI.

What should be the approach going ahead? – (1) Policy and Vision: (a)

Foreign Policy experts suggest that the Government must bring out a policy on India's ODA, stating its **vision, objectives, principles and goals**. This will replace the current ad-hoc approach and make India's ODA more objective; (b) Some experts suggest enacting an **India Overseas Development Cooperation Act**, to enable Parliament's oversight over the cooperation programme. This is similar

to **UK's International Development Act (2002)** which detailed the country's objective to contribute towards global poverty reduction; **(2) Autonomous Body:** DPA in its current form lacks adequate authoritative powers. The **US AID is an independent agency** of the US Federal Government established under the **Foreign Assistance Act (1961)**. The DPA can be made a more autonomous entity empowered to address long-term and short-term strategies. The Brazilian Cooperation Agency, affiliated to the country's foreign ministry, has a mandate to **negotiate, coordinate, implement and monitor technical cooperation projects and programmes**. Similar powers should be accorded to the DPA; **(3) Enhance Visibility:** There is a need to enhance visibility on the all the projects undertaken with the corresponding spending. The present dashboard only lists year-wise allocation/disbursal of funds, but provides no details of projects. Proper visibility will enable analysis, periodic review and revision of India's international development cooperation policy; **(4) Widen Cooperation:** The Government should move beyond government-to-government negotiations and agreements to include more plural and diverse stakeholders like the private sector, academia, philanthropic institutions and civil society. Collaborations with the private sector and civil society can be achieved by engaging with existing platforms such as the **Forum for Indian Development Cooperation (FIDC)** (an initiative by the DPA, academia and civil society organisations, and launched in 2013) that has been working to raise awareness on various dimensions of development cooperation policies through public engagement at the domestic level; **(5) Sharing Domestic Capabilities:** Going forward, India should actively promote learnings from its domestic initiatives like Aadhar,

Policy Framework for India's Overseas Development Cooperation

Vision for India's Development Cooperation

- **Non-Conditionality:** The development partnerships must be based on mutually agreed terms
- **Promoting a 'Partnership among Equals':** All development partnerships must be on an equal footing, without domination or undue influence.
- **Mutual Accountability:** Both India and development partners must be accountable to each other.

Operating Principles

- Mutual Benefit.
- Transparency and Fiscal Integrity.
- Accountability.
- Sustainability.
- Inclusiveness.

Goals and Development Priorities

- Capacity Development and Technology Transfer.
- Gender Empowerment and SDGs.

Source: Towards a White Paper on Policy, *Journal of Public Policy*

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JAM Trinity, Ayushman Bharat, CoWin, UPI etc. in other developing countries and help them achieve development outcomes.

India's overseas development cooperation and assistance initiatives have enabled India to win goodwill, especially among developing countries. India's programmes have been successful because of the equal **involvement of the partners** as well as **non-conditionality of India's cooperation**. The Government must focus on reforms to make the programme more structured. This will enable India to play a more constructive role in reshaping the global order which is going through a phase of uncertainty.

10. Reforms in the United Nations Security Council

News: India's External Affairs Minister (EAM) emphasized on the need to reform the United Nations Security Council (UNSC) in his address to the 77th session of the United Nations General Assembly (UNGA).

What is the Structure of the UNSC? – (1) The UNSC has 15 members. 5 members are permanent, China, France, Russia, the United Kingdom, and the United States (P5 States); (2) The 10 **non-permanent members** are **elected for a 2-year term by the UNGA**. To be elected, a Member State must receive at least 2/3rd of all votes cast. The members are chosen according to the region; **African Group** (three), **Latin America and the Caribbean** (two), **Asia-Pacific** (two), **Western Europe and Others** (two), and the **Eastern Europe** (one); (3) The 5 permanent members have the **power of veto**. Under Article 27 of the UN Charter, Security Council decisions on all **substantive matters** require the affirmative votes of 3/5th of the members (i.e. 9); (4) A negative vote or a “veto” by a permanent member **prevents adoption of a proposal**, even if it has received the required votes. Abstention is not regarded as a veto in most cases, though all 5 permanent members must vote for adopting any **amendment of the UN Charter** or any recommendation of **the admission of a new UN member state**; (5) The decisions of the UNSC (known as resolutions) are binding on all members.

Functions of the UNSC

Under the United Nations Charter, the functions of the Security Council are:

- **Maintain international peace** and security in accordance with the principles and purposes of the UN.
- **Investigate any dispute** or situation which might lead to **international friction**.
- **Recommend methods** of adjusting such disputes or the **terms of settlement**.
- **Formulate plans** for the establishment of a system to **regulate armaments**.
- **Determine the existence of a threat** to the peace or **act of aggression** and to recommend what action should be taken;
- Call on Members to **apply economic sanctions** and other measures not involving the use of force to prevent or stop aggression.
- **Take military action** against an **aggressor**.
- **Recommend** the admission of **new Members**.
- **Recommend** to the General Assembly (GA) the **appointment of the Secretary-General** and, together with the GA, to elect the **Judges of the International Court of Justice**.

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What is the need for UNSC Reforms? – (1) The current composition of the UNSC reflects the geopolitical situation of 1945. New economic and military powers have risen since then; (2) The UNSC had 11 members in 1945 (5 Permanent and 6 non-permanent) with total 51 members in the UN. The UNSC was expanded to the present strength in 1965 by adding 4 new non-permanent members. The membership of the UN has expanded to 193 now while the membership of UNSC has remained stagnant. The Council's present composition is no longer representative of the present day world. Africa in particular has very low representation on the Council; (3) Alongside stipulating a geographically balanced distribution of seats, the Charter of the United Nations also expressly states that countries that make considerable contributions to the UN should be members of the Security Council; (4) The issues that the Security Council deals with have diversified over the past 75 years like peace-building, conflict prevention, non-proliferation, counter-terrorism and protection of civilians. Hence there is a need for a more broad-based Council; (5) In recent years, members' clashing interests have frequently **hampered the Council's capacity to respond** to significant conflicts and emergencies, such as Syria's civil war, Russia's Ukraine War, and the COVID-19 pandemic; (6) In the absence of reform, there is a danger that

decision-making processes could be shifted to other forums even though such forums do not have the binding effect and legitimacy of the UNSC. That is not in anyone's interest.

In one of the debates on reforms, India's representative to the UN argued that, "...an enlarged Council would **address the democratic deficit**, which prevents **effective multilateralism**, a multilateralism that is based on a **democratically-evolved global consensus**".

What are the proposed plans for UNSC Reforms? – There is a consensus among all UN members that the UNSC need to be reformed. However, the manner of the reform has remained contentious. Different groups have been formed, that are pushing for widely different reform measures like expansion of total membership, permanent vs non-permanent seats, status of veto powers etc.

(A) Membership Reforms

Different Groups argue that the total membership should be increased to 25-27 with 11 permanent members and 14-16 non-permanent members. The creation of the '**Open-ended Working Group on the Question of the Equitable Representation on and Increase in the Membership of the Security Council and Other Matters Related to the Security Council**' (the UN committee with the longest title) has formalized the debate and proposition of various reforms.

(B) Power to Veto Reforms

The most contentious issue has been the power to veto. The

Working Group has been considering a number of propositions in relation to the veto: **(1) Abolishing the Veto:** This is considered an unlikely scenario. It would require the P5 countries to relinquish it voluntarily as they have the capacity to veto any proposal that it be abolished; **(2) Two Veto Requirement:** Two vetoes be required to defeat a majority resolution instead of one; **(3) Extension of the Veto:** To create new permanent members without the veto would create two classes of permanent members within the Council. However, some Member States argue that extension of veto rights will further limit the effectiveness of the UNSC; **(4) Limitation of the use of the veto:** The use of veto powers should be limited only to Chapter VII enforcement decisions. Chapter VII of the UN Charter deals with the 'Action with Respect to Threats to the Peace, Breaches of the Peace, and Acts of Aggression'. The P5 want to retain this power especially for important matters like the appointment of the Secretary General. A further suggestion is that veto should be limited to international purposes, not national interests; **(5) Justification of the use of the veto:** It has been suggested that any use of the veto should require an explanation to the General Assembly.

A Council that is more reflective of the contemporary geopolitical realities of the world = A more effective Council

A more representative Council = A more effective Council

A more democratic Council (incorporating inclusive and participatory decision-making) = A more effective Council

A Council with a membership that includes regional powers will be more capable = A more effective Council

	G4 (Group of Four) (%position presented in the IGN document in 2015)	AU (African Union) (%position presented in the draft resolution by Africa in 2005)	CARICOM (Caribbean Community)	L69	UFC (Uniting for Consensus)
Member	Brazil, Germany, India and Japan	54 African countries	14 CARICOM member states	India, Jamaica, PNG, Saint Vincent, etc.	Italy, Republic of Korea, Mexico, etc.
Permanent Seats	11 (+6) Africa(2), Asia-Pacific(2), Latin America and Caribbean(1), Western Europe and other(1)				5 (status quo)
Non-Permanent Seats	14 or 15 (+4 or +5) Africa(1 or 2), Asia-Pacific(1), Eastern Europe(1), Latin America and Caribbean(1)	15 (+5) Africa(2), Asia-Pacific(1), Eastern Europe(1), Latin America and Caribbean(1)	16 (+6) Africa(2), Asia-Pacific(1), Eastern Europe(1), Latin America and Caribbean(1), SIDS(Small Island Developing States)(1)	Up to 21 (+11) increase of non-permanent seats and creation of new category of membership based on longer term non-permanent seats	
Veto	The new permanent members shall not exercise the veto-right until a decision has been taken during a review (15 years after the reform)	The veto should be abolished but so long as it exists, it should be extended to all members including the new permanent members	Same as the left In addition, efforts must be made to limit its use	Ready to consider formulas on how to best limit its use	

*G4 expressed its support to the Common African Position (CAP) in the G4 Ministerial Joint Press Statement (September 2021).

Issues to be discussed:

- Categories of Membership
- Size of an Enlarged Council and Working Methods of the Council
- Regional Representation
- Relationship between the Council and the General Assembly
- Question of the Veto

Source: United Nations University. Different Groups have proposed different plans for expansion of permanent and non-permanent membership as well as the veto power. The African Bloc (AU) is also called the Ezulwini Consensus.

(C) Procedural Reforms

Many Member States call for a greater level of **transparency, responsibility and accountability** in all the procedures of the Security Council. It has been proposed that the decisions by the Security Council to intervene should also be **scrutinised and monitored by the General Assembly** and the **International Court of Justice (ICJ)**. It is believed that proper accountability for great executive powers, such as deciding on war or peace, require the oversight of a judicial body capable of determining whether an action was within relevant international law.

What are the challenges to UNSC Reforms? – (1) Achieving comprehensive Security Council reform will require an **amendment to the UN Charter**. An amendment to the UN Charter requires agreement of two-thirds of the General Assembly and two-thirds of the Security Council, including the Permanent Members. In the absence of consensus of manner of reforms, this is difficult to achieve; (2) The P5 members are not ready to relinquish their power to veto. Nor they are enthusiastic about sharing the power with ‘new’ members; (3) Each permanent seat contender is opposed by some other member e.g., permanent membership of India is opposed by China and Pakistan, Japan is opposed by China, Brazil is opposed by Argentina and Germany is opposed by Italy. The United for Consensus (Coffee Club) has been instrumental in holding back the reforms. The prime movers of the club include Italy, Spain, Australia, Canada, South Korea, Argentina and Pakistan.

What should be the approach going ahead?

– (1) The Security Council should better reflect on the current global realities and incorporate more geographically diverse perspectives. It must **demonstrate flexibility and willingness to compromise** in the name of greater credibility and legitimacy; (2) Developing countries vision of development for the South and the role on the UN in promoting and achieving such vision needs to be strongly and consistently articulated; (3) The UN reform process should result in a **strengthened mandate for the UN as the primary global governance institution** to be able to exercise coordinative functions over the work of the major multilateral economic policymaking institutions like the World Bank, the IMF and the WTO; (4) India should continue to push hard for UNSC reforms. Foreign Policy experts suggest that a pragmatic approach should be to accept a permanent status without the power to veto.

India and Permanent UNSC Membership

Arguments that support India's bid for Permanent Membership of the UNSC.

- 1 India is soon going to become the most populous nation in the world. India is home to **~18% of the world's population** with 1.4 billion people.
- 2 India recently became the **5th largest economy in terms of GDP (Nominal)**. India is already the 3rd largest economy in terms of GDP (PPP).
- 3 India is a **rising military power**. India has been ranked 4th in the Global Firepower Index, behind the US, Russia and China, and ahead of the P5 nations, the UK and France.
- 4 India has always taken **principled stands on international affairs**. India led the **Non-aligned Movement** and supported a multi-polar world. India gave the principle of **Panchsheel**. India has been a champion of **Disarmament** and **elimination of WMDs** including Nuclear weapons.
- 5 India has also regularly contributed to the UN-Peacekeeping Missions. As of September 2021, India had ~5500 peacekeepers (~8,000 in the 2000s).

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The road of UNSC reform is not easy. Member States have failed to agree on a number of issues. The P5 members should realise that a more democratic and representative UNSC would be better-equipped to address global challenges. The reformers—India, Japan, Germany, and Brazil, or the G4—should maintain their multilateral diplomacy in order to build a democratically evolved global consensus on restructuring the UN Security Council.

1. Agenda for India's Foreign Trade Agreements (FTAs)

News: The Government has extended the Foreign Trade Policy 2015-20 till March 2023. The decision has come amidst concerns regarding India's approach towards Foreign Trade Agreements (FTAs).

What are the concerns about India's FTA agenda? – (1) **Little effect on India's trade:** FTAs accounted for 16% of India's trade in 2000 and 18.5% in 2021-22; (2) **Major trading partners remain non-FTA countries:** India's major trading partners like the US (11.5% share of total trade), China (11.1%) and the EU are still out of India's FTA agenda; (3) **Withdrawal from key FTAs:** India withdrew from a key agreement with the Regional Comprehensive Economic Partnership (RCEP) in 2019. By dropping out of RCEP India has limited its access to Asia, the most dynamic part of the world economy. India has also decided to stay away from trade pillar of IPEF. (Refer EPIC September 2022 for India Walks out of Trade Pillar of IPEF); (4) **Limited goods and services:** Indian FTAs are inherently limited, leaving out many of the highest consumption items or imposing extended tariffs with long adjustment periods. On the other hand, ASEAN, China, South Korea and Japan have much wider and deeper FTAs; (5) **Low participation in global value chains (GVCs):** By excluding many items from the agreements, India limited the extent of the market and our ability to participate in various supply chains. (Refer EPIC September 2022 for Building Resilient Global Value Chain (GVC) Linkages in India); (6) **Impacts of simplistic thinking:** During negotiations, India's emphasis is more on enhancing exports, with efforts to curb imports. This is flawed thinking as "a tax on imports is a tax on exports". Higher duties on imports (especially raw material and intermediate goods) which are used in making domestic export oriented goods eventually increases costs of Indian exports.

What should be India's FTA agenda in future? – (1) **Sign essential FTAs:** India needs FTAs with countries and areas that either matter to India today or will matter in the future. For instance, India should sign FTAs with (a) Top current export markets such as the US, EU and Bangladesh; (b) Top future export markets like Africa and Latin America; (c) Join the newly-created Indo-Pacific Economic Framework as it provides access to the US, Indonesia, Japan, South Korea, Singapore, Vietnam and excludes China; (2) **Expand India's FTA agenda ambition:** India should (a) **Focus on zero-for-zero agreements:** These agreements usually exclude zero items and often apply zero tariffs in both directions; (b) India should have **greater confidence in its own capabilities.** For instance, India must include automobiles and auto components in all the FTAs; (3) **Increase India's competitiveness:** India should use FTAs to force competitiveness on firms. Firms, in turn, must force change in areas such as infrastructure, regulation and ease of doing business that reduce competitiveness; (4) **Integrate trade and industrial policy:** Production-linked incentive scheme is India's key industrial policy. So, India should ensure all items covered by PLI are explicitly included in every FTA; (5) **Capitalise on China+1 strategy:** The world is looking for China+1 supply resilience. So, India should capitalise on that by including not only sectors that India is competitive in now such

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

<p>1</p> <p>Investment in Intangible Assets</p> <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. 	<p>2</p> <p>Promote Fair Competition</p> <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. 	<p>3</p> <p>Enhance Institutional capacity</p> <ul style="list-style-type: none"> Review reports of Reform Commissions. Implement recommendations to enhance capacity of public institutions. Lateral entry should be promoted, including experts for FTA negotiations.
<p>4</p> <p>'Whole Government' Approach</p> <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. 	<p>5</p> <p>Complement FTAs</p> <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. 	<p>6</p> <p>Shared Vision</p> <ul style="list-style-type: none"> Adopt mutual vision and single market approach. Implement cooperative federalism in letter and spirit.

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as white goods, textiles and garments, chemicals and pharmaceuticals but also sectors India can do well in future. This includes sectors such as e-commerce, electric vehicles, and data privacy. (Refer EPIC April 2022 for India's Merchandise Exports: Challenges and Opportunities and EPIC August 2022 for Need for a New Foreign Trade Policy).

2. India's Foreign Trade Settlement in Indian Rupee

News: The RBI has allowed domestic EXIM (Export-Import) Trader to settle invoicing and payments for international trade in Rupees. It will help facilitate trade and reduce dependence on US Dollar.

What are the expected benefits? – (1) It is a departure from the long-standing provision of the Foreign Exchange Management Act mandating final settlement in free foreign exchange; (2) It would need foreign banks **opening Vostro accounts** in India with **settlements taking place instantly**; (3) It would allow Indian EXIM dealers to **settle rupee-denominated trade invoices** using these Vostro accounts; (4) The move would assist Indian exporters in **collecting advance payments in Indian rupees** from overseas clients. This will prove beneficial to Indian exporters and enhance their cash-flow management; (5) The policy would **lower demand for foreign exchange** for the settlement of trade flows. The Rupee has fallen to historic low level and India's foreign exchange reserves are depleting; (6) The rupee payment method can be used to **set off export and import transactions** through vostro accounts (e.g., India's exports worth US\$ 3 billion dollars to Russia can be used to offset against US\$ 9 billion imports from Russia. In effect, India would need to pay net US\$ 6 billion dollars to Russian exporters); (7) It would have a favourable long-term influence on regional nations wanting to trade with India.

How will this measure affect international politics? – (1) It signals the beginning of more concerted effort to settle payments in non-dollar currencies among BRICS nation and with other South Asian countries; (2) It would support the Indian rupee's position on the internationally with China and Russia looking for alternative payment systems. (Refer EPIC March 2022 for De-dollarization of the Global Economy).

Why are the consequences of falling rupee? – (1) **Imports:** The sharp rise in global commodities, particularly oil imports have caused India's trade and current account deficits (CAD) to worrying levels. The current account deficit is expected to touch 3% of GDP in 2022-23 despite a record increase in exports; (2) **Inflation:** A weakening rupee worsens the threat of **imported inflation** in India, since India is dependent on imports for about ~85% of its annual oil demand. (Refer EPIC July 2022 for Fall in the Value of Rupee: Reasons, Concerns and Solutions).

3. One Nation One Fertilizer Scheme

News: The Ministry of Chemicals and Fertilizers has launched the 'One Nation One Fertilizer' Scheme. It includes a 'Single Brand and Logo' under the fertilizer subsidy scheme.

What is the 'One Nation One Fertiliser' Scheme? – (1) Under the scheme, all fertiliser companies in India have to sell their products under the brand name of 'Bharat'. All fertilizer bags whether containing urea or diammonium phosphate (DAP) will have the prefix Bharat e.g., 'Bharat urea', 'Bharat DAP' etc., irrespective of whether it is manufactured by a public or a private player; (2) The companies have been allowed to display their name, brand, logo and other relevant product information only on 1/3rd space of their bags. On the remaining 2/3rd space, the 'Bharat' brand and Pradhanmantri Bharatiya Jan Urvarak Pariyojana logo will have to be shown.

What is the rationale for introducing this scheme? – (1) It will help in standardizing fertilizer brands across the nation; (2) A single brand name will reduce the criss-cross movement of subsidized fertilizers. It will cut down the freight costs and reduce transit time; (3) It will check the diversion of urea for industrial purposes.

At present, the maximum retail price of urea is fixed by the government. The Government compensates companies for the higher cost of manufacturing or imports incurred by them. Apart from subsidizing and deciding at what price companies can sell, the government also decides where they can sell. This is done through the Fertilizer (Movement) Control Order, 1973.

What are the drawbacks of this scheme? – (1) It will disincentivise fertilizer companies from undertaking brand promotion activities. It denies opportunities to companies to create their own market space through brand promotion; (2) It creates disincentive for fertiliser companies to take up field programmes to introduce efficient methods of nutrient application as part of their market promotion activities; (3) It impinges upon farmer rights to buy the fertiliser of their choice; (4) If some fertilisers do not meet the required quality standards, farmers might blame the Government instead of the manufacturer (as large space covered by Government Logo).

What should be the approach? – The Government should provide direct subsidies to farmers. The database and infrastructure for direct benefit transfer already exist with the Government. (Refer EPIC November 2021 for The Issue of Fertilizer Subsidies).

4. Issues with Draft Telecommunication Bill, 2022

News: The Department of Telecommunications has released the Draft Telecommunication Bill, 2022 for public comments. It seeks to replace the Indian Telegraph Act, 1885. Experts have raised concerns about the provisions providing excessive powers to the Union Government for regulating the sector.

What is the need for the Telecommunication Bill? – (1) The telecommunication ecosystem in India has **117 crore subscribers, employs 4 crore people** and contributes **~8% to India's GDP**. The sector is primarily regulated by the Indian Telegraph Act, 1885. The sector has undergone a massive change since then. The **challenges associated with the communication technologies of present day** like the 5G, Internet of Things are not covered under the existing legislations. Hence there is a **need for an overhaul of the legal framework**; (2) Telecom **Spectrum** has become a **vital and strategic resource**. There is a lack of comprehensive legal framework regarding the Spectrum (like auction of spectrum). The draft Bill seeks to address this gap; (3) Through the Bill, the Union Government aims to **consolidate and amend the existing laws** governing the provision, development, expansion and operation of telecommunication services, telecom networks and infrastructure, in addition to assignment of spectrum.

Regulation of Telecommunication Sector: Legal Provisions

Legislations and Rules

- The Indian Telegraph Act, 1885 (Telegraph Act)
- The Wireless Telegraphy Act, 1933 (WT Act).
- The Telegraph Wires, (Unlawful Protection) Act 1950.
- The Telecom Regulatory Authority of India Act, 1997 (TRAI Act).
- The Information Technology Act, 2000 (IT Act).

Regulation of Audio-visual Distribution

- The Cable Television networks (Regulation) Act, 1995.
- The Cinematograph Act, 1952.
- The Sports Broadcasting Signals (Mandatory Sharing with Prasar Bharati) Act, 2007;
- The Press Council Act, 1978.
- The Information Technology (Intermediary Guidelines and Digital Media Ethics Code) Rules, 2021.
- The Consumer Protection (E-Commerce) Rules, 2020, have also been notified to regulate e-commerce entities and may also extend to social media platforms.

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What are the salient provisions of Draft Bill? – (1) The Bill expands the definition of telecommunication services to include 'Over-The-Top' (OTT) communication services, all instant messaging, video and call applications like

WhatsApp, Zoom, Telegram, Signal etc. (services that run over the internet using data); **(2)** The draft Bill grants the Union Government: **(a)** The 'exclusive privilege' to 'provide telecommunication services'; **(b)** Operate networks; **(c)** Issue licences to telecom service providers. As OTT platforms have been covered under Telecommunication Services, they may also have to seek licences to operate in India; **(3)** The Bill provides for messages or communication over any telecommunication services to be intercepted and disclosed in the event of a public emergency; **(4)** The Bill states that the Union Government shall assign spectrum to best serve the common good and **ensure widespread access to telecommunication services**. It may notify a National Frequency Allocation Plan (NFAP) for the use and allocation of spectrum; **(5)** It has provided a framework governing payment defaults by licensees, registered entities etc., and allows the government to write-off of such amounts or part thereof. The Bill intends to **reduce the burden on telecom companies** by reducing the penalties levied. It seeks to make most of the offences cognisable; **(6)** The draft Bill also accords the Union Government with powers to defer, convert into equity, write off or grant relief to any licensee under extraordinary circumstances, including financial stress, consumer interest, and maintaining competition, among other things; **(7)** The Bill tries to achieve a '**Right of Way**' (ROW) enforceable at the State and at the Municipal Corporation level. It lays down a framework in which a public entity that owns the land has to grant 'right of way' permission expeditiously unless it gives a substantive ground for refusal.

Regulation of Telecommunication Sector: Bodies

Bodies

- The Department of Telecommunications (DoT), Ministry of Communications.
- The Ministry of Information and Broadcasting (MIB).
- Telecom Regulatory Authority of India (TRAI).
- **Telecommunications Engineering Centre (TEC)** is responsible for drawing up of standards, generic requirements, interface requirements, service requirements and specifications for telecom products, services and networks.

Audio-visual Media Distribution

- Central Board of Film Certification (CBFC) (along with MIB).
- The Professional News Broadcasters Standards Authority.
- Internet and Mobile Association of India (IAMAI).
- The Indian Broadcasting Foundation.
- The News Broadcasting Standards Authority.
- The Broadcasting Content Complaints Council.

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What are the concerns with the Draft Telecommunication Bill? – The industry and privacy experts point out the three broad aspects that are concerning: **(I)** Widely **expanded definitions** of telecommunication and **licence requirements** for internet-based applications; **(II)** **Threats to online privacy** and the **undermining of strong encryption** and surveillance concerns; **(III)** The **provisions to suspend the internet** at a time when India already suffers the highest number of internet shutdowns in the world. **(1)** The **licence regime for OTT services** is likely to have two consequences; **(a)** The cumbersome KYC process where users will have to register for usage as they do for SIM cards and phone connections. This is a deep concern from the aspect of surveillance and freedom of speech; **(b)** This may also spur data localisation demands; **(2)** Industry stakeholders have raised the concern of end-to-end encryptions being weakened or possibly broken in order to intercept the communications. Thus, the draft Telecommunication Bill appears to have ignored appeals for surveillance reforms including the landmark ruling in 2017 by the Supreme Court, affirming the right to privacy as a fundamental right under Article 21; **(3)** On the occurrence of any public emergency or in the interest of the public safety, the Union or State Governments can **order the suspension of communication services** on any telecommunication network. Internet shutdowns are a **threat to an open and free internet** and also cause immense economic losses amounting to billions of dollars (*Refer EPIC May 2022 for Cost of Internet Shutdowns and EPIC July 2022 for OHCHR Report on Internet Shutdowns*); **(4)** Though the intent of the bankruptcy provisions in the draft Bill is noble, the Union Government might face huge difficulties in executing them. The Bill also **overrides provisions of the Insolvency & Bankruptcy Code (IBC)**, which might complicate resolution proceedings (*Refer EPIC August 2022 for Issues with the Working of Insolvency and Bankruptcy Code, 2016 (IBC)*); **(5)** The draft Bill plans to **confine TRAI's powers to making recommendations only if requested by the DoT**. At present, TRAI has no powers of enforcement of its directives and can't levy penalties on telecom companies. If this Bill is passed, TRAI can't even make suo moto

recommendations; (6) Experts argue that regulatory framework should regulate aspects related to infrastructure and hardware of telecommunication network. It should interfere with 'layers of software' that ride over the hardware. This can lead to **stifling of innovation in telecommunication technologies**.

What should be the approach going ahead? - The Draft Telecommunication Bill is open for comments by public till October 20, 2022. After that the Government will review the suggestions and may make changes to the provisions of the Bill, before introducing the Bill in the Parliament.

The Government must address the concerns related to privacy of the users. In addition, the provisions in conflict with the IBC can also be reviewed and rectified in order to remove any confusion and delay in proceedings.

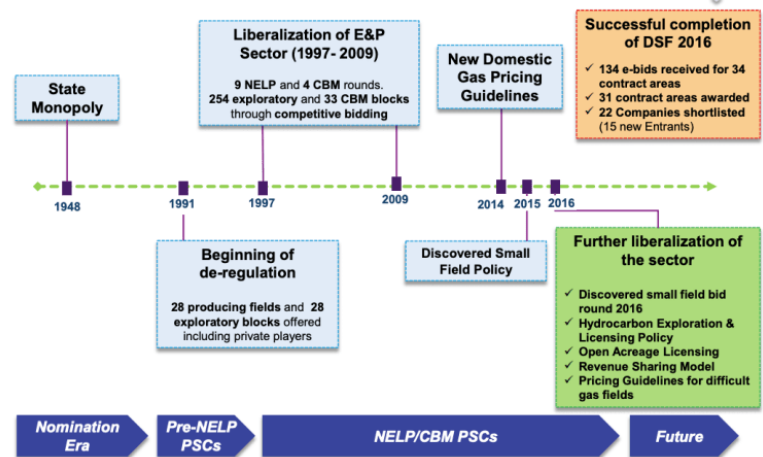
5. Falling Oil Production in India

News: The Government has offered 26 blocks for finding oil and gas through international competitive bidding under the HELP. The domestic crude oil production has shown a consistent declining trend in India.

What is the policy framework for Oil Exploration and Production in India? - (1) Till 1991, oil exploration and production was the exclusive domain of the Government. The Government began to liberalize the sector in 1991; (2) In 1997, the **New Exploration Licensing Policy (NELP)** was launched, which tried to attract oil explorers through competitive bidding process; (3) The Hydrocarbon Exploration and Licensing Policy (HELP) was passed in March 2016 and replaced the NELP; (4) HELP was launched with the objective of **reducing India's dependence on imports by increasing the domestic production of oil and gas** and thereby generating employment; (5) HELP unifies the authority to grant licenses for exploration and production (E&P) of conventional and unconventional oil and gas resources, including oil, gas, coal bed methane, shale gas/oil, tight gas, and gas hydrates.

What are the benefits of HELP? - (1) The Profit Sharing regime has been replaced with the **Revenue Sharing regime**. It will encourage cost efficiency. The Government will not be required to scrutinize the costs incurred by producers. The explorers will be incentivised to start production as soon as possible. In the profit sharing contract (under NELP), the explorer was allowed to recover costs incurred in exploration activities (like drilling wells,

Exploration and Production Regime in India



Policy category	HELP	Pre-HELP
Types of hydrocarbon	Covers all conventional and unconventional oil and gas	NELP covered only conventional oil and gas; Coal Bed Methane Policy covered coal bed methane
License	A single license for exploration and extraction of all types of oil and gas	Separate license required for conventional oil and gas, coal bed methane, shale oil and gas, and gas hydrates
Revenue model	Revenue-sharing model under which revenue will be shared with the government in the ratio submitted by bidders	Production/profit-sharing model under which government received a share in the profits
Coverage	Open acreage policy under which exploration companies can apply to explore any block not under exploration	Exploration was restricted to blocks opened for bidding by the government
Oil and gas pricing	Companies have the freedom to sell their production domestically without government intervention	Crude oil price was based on import parity; gas price was fixed by the government
Royalty	Concessional royalty for deep water (5 percent) and ultra-deep water (2 percent) areas, which are difficult to explore, and reduction of royalty in shallow waters (from 10 percent to 7.5 percent)	12.5 percent for the onshore areas and 10 percent for offshore areas; 10 percent for coal bed methane

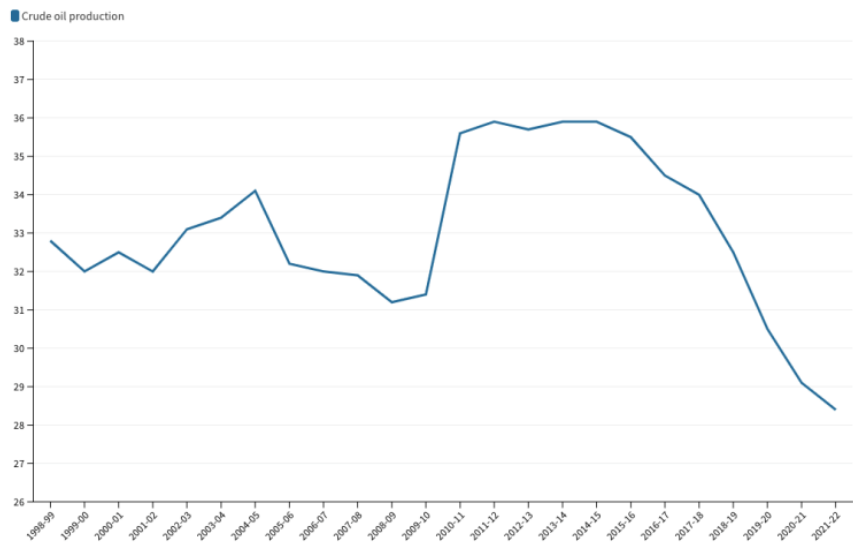
creating infrastructure) before sharing the profits with the Government; (2) There is a **single uniform licence** for all forms of unconventional hydrocarbons like shale oil, Coal Bed Methane (CBM) etc.; (3) Prices have been freed of Government regulation. The oil production companies will be able to charge a competitive market price subject to a ceiling; (4) Under NELP, the oil production companies had to wait for the Government to invite bidding for oil blocks. The exploration and production was restricted to areas (blocks) opened by the Government. HELP introduced an **Open Acreage Licensing Policy (OALP)** that will allow companies to approach the government at any time and seek permission to explore any block.; (5) It also gives companies access to the **National Data Repository (NDR)** maintained by the government, to consult these maps and data to help inform them about which areas to bid on; (6) The royalty has been reduced which will incentivize the explorers.

National Data Repository (NDR)

- National Data Repository (NDR) is a **government-sponsored Oil Exploration and Production data bank** with state-of-the-art facilities and infrastructure for **preservation, upkeep and dissemination of data** to enable its **systematic use for future exploration and development**.
- It comes under the **Directorate General of Hydrocarbons (DGH)**.
- It has been operational since July 2017.
- The data stored in NDR include:
 - Seismic, Well and Log Data.
 - Spatial Data.
 - Other Geological and Geophysical (G&G) data like Drilling, Reservoir, Production, Geological, Gravity & Magnetic etc.
 - Reports and Documents etc.

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What are the reasons for falling Oil Production in India? - The domestic oil production in India has witnessed a consistent fall: (1) **Ageing wells**: Most of India's crude oil production comes from ageing wells that have become less productive over time. A **lack of new oil discoveries** in India coupled with a **long lead time to begin production from discovered wells** has led to a steady decline in India's crude oil production. The output of these ageing wells is declining faster than new wells can come up; (2) **Dominance of State-owned Companies**: Crude oil production in India is dominated by two major state-owned companies, ONGC and Oil India. Critics argue that over the years, ONGC has become a less efficient explorer. Rather, the focus has been more on acquisitions, not all of which make economic sense. ONGC has failed to strike a major oil reserve since the discovery of Bombay High; (3) **Policy Issues and Lack of Private Participation**: Long delays in the operationalisation of production even after an oil block is allotted due to delays in approvals deters private participation. The Cairn Energy fiasco has acted as deterrent for foreign investors. The Government had made a demand for **retrospective tax** from Cairn. Cairn won an international arbitration award against the Government. The whole episode has **deterred foreign companies from investing in India**, despite very favourable terms under HELP;



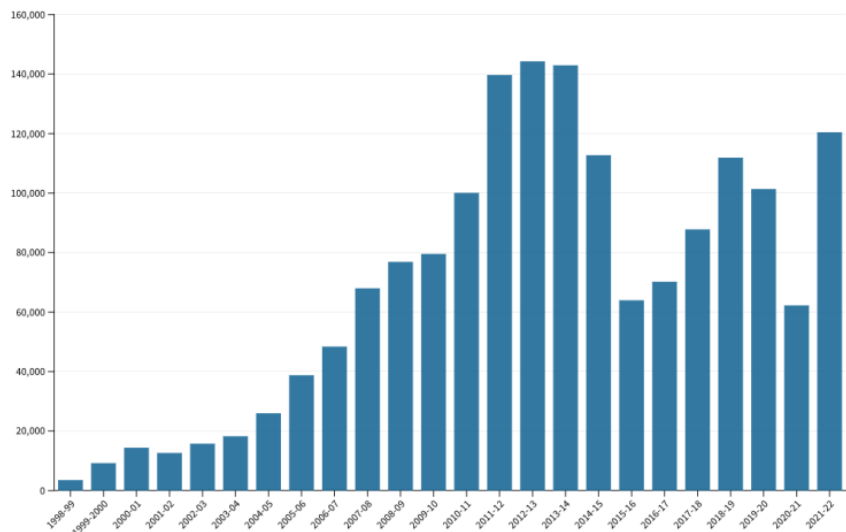
The domestic oil production has been falling consistently since 2015-16. The production was 35.9 MMT in 2014-15. It has fallen to 28.4 MMT in 2021-22.

(4) High Royalty: Some experts say the high royalties make it unviable for the oil companies to invest in further exploration and production.

Why is boosting domestic Oil Production crucial for India? – (1) High Import Bill: India is the 3rd-largest consumer of oil in the world. Due to low domestic production 85% of oil needs are met through imports. In FY2021-22, India's crude oil import bill has risen to US\$ 120.4 billion as the crude prices surged. A higher import bill **widens the trade deficit** and **put pressure on Government finances and forex reserves;** (2)

Energy Security: India's economic growth is closely related to its energy demand. Although, the Government has aggressively pushed renewable energy (especially in the electricity mix), the demand for oil and gas is expected to remain high for transportation and fertilizer sectors. According to the International Energy Agency (IEA), consumption of natural gas in India is expected to grow by 25 BCM, registering an average annual growth of 9% until 2024; (3)

Inflationary Pressures: High oil prices contribute to **higher domestic inflation**. This impacts the poor the most.



India's highest oil imports were in 2012-13 (US\$ 144.3 billion). The fall in global crude oil prices reduced the imports in the following years. However, imports are rising again due to rising demand and prices.

What steps can be taken to enhance Oil Production in India? – According to a former Secretary with the Govt and oil and gas expert, following steps can be taken to boost domestic production: **(1)** The Government should **incentivize the domestic producers** to increase production. This can enable production of additional 18 MMT of oil in the country, saving ~US\$ 10 billion per annum over the current import bill (~6-7% reduction); **(2) Alternative measures** should be explored to reduce dependence on imports e.g., producing **syngas from coal**; **(3)** Some provisions of the Mining Act can be changed by adopting the model of Long-Term Production Sharing Contract (PSC) Extension of Oil Blocks for 50 years. This will enable better management in terms of planning and reservoir management; **(4)** The Government should **lower the effective levies** (including royalties, cess etc.) from 67% to 40% for pre-NELP blocks. However, this should be conditional upon **investment of surplus revenues to boost oil production** through deployment of **enhanced recovery technologies**; **(5)** The Government should bring **import parity** in the oil & gas value chain by imposing customs duty on crude, on a par with domestic sales tax. This will ensure a level playing field for domestic crude apart from bringing in additional revenue of ~US\$ 7 billion; **(6)** New fields have long gestation periods. To bring down the cost, the Government should rework the tax for the pre-NELP blocks that constitute the bulk of domestic production today. This should be supplemented with reduction in royalty; **(7)** The Chinese government offered a **floor price to oil producers**, insulating them to an extent from any sharp falls in international crude prices. This strategy can be adopted by the Indian Government.

6. Nobel Prize in Sciences, 2022

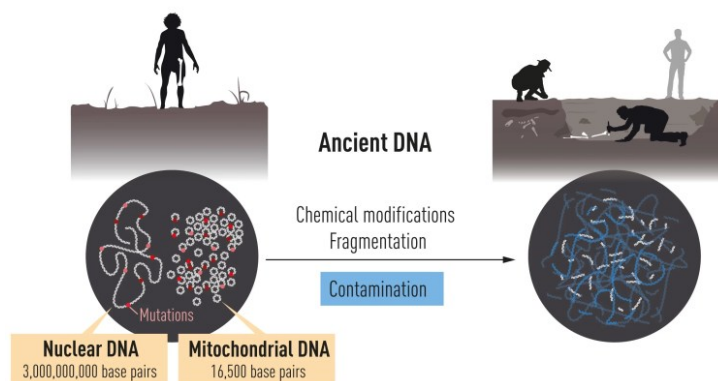
News: The Nobel Prizes 2022 have been announced. The Prizes have been awarded for pioneering research in various fields in sciences.

About the Nobel Prize

The first Nobel Prizes were awarded in Stockholm, Sweden in 1901 on the 5th death anniversary of Swedish inventor Alfred Nobel. He invented dynamite and other high explosives. Originally, the prize was awarded in the fields of Physics, Chemistry, Physiology (Medicine), Literature, and Peace. Later in 1968, a sixth prize was added in the field of economic sciences, but it is not officially called Nobel Prize (Sveriges Riksbank Prize in Economic Sciences).

Prizes may be given only to individuals, except the Peace Prize, which may also be conferred upon an institution. However, maximum of 3 individuals can share a prize.

Nobel Prize in Medicine or Physiology, 2022 - (1) It has been awarded to Svante Pääbo. He has been credited with developing **methodologies to extract 'clean' DNA from thousands of years old human fossils**, and reading the genetic information they contain; **(2)** Earlier, scientists were dependent on the genomes of present day human beings and extrapolating the information into the past. This method is called **deduction**. This is an indirect method and involves uncertainties; **(3)** Pääbo developed methodologies that **eliminated deductions**, and **rely on direct observation** e.g., he realised that one particular skull bone, called petrous, preserves DNA better than the rest of the body; **(4)** There are extreme technical challenges in his work because with time DNA becomes chemically modified and degrades into short fragments. Only trace amounts of DNA are left after thousands of years. Exposure to the natural environment leads to contamination with DNA from bacteria and contemporary humans. This makes research complex.



Source: Nobelprize.org. DNA is localized in two different compartments in the cell. Nuclear DNA harbours most of the genetic information. After death, DNA is degraded over time and ultimately only small amounts remain. It also becomes contaminated with DNA from bacteria etc.

What is the significance of Pääbo's work? - (1) Svante Pääbo established an entirely new scientific discipline, called **paleogenomics**, that focuses on studying the DNA and genetic information of extinct hominins through reconstruction; **(2)** Pääbo's discoveries have established a unique method, which is **utilized extensively** by the scientific community to **better understand human evolution and migration**; **(3)** Pääbo's work enabled the revelation and understanding of how **gene transfer had occurred from hominins** (now-extinct species of apes that are believed to be related to modern humans) **to Homo sapiens** following their migration out of Africa around 70,000 years ago. It helped in greater understanding about how ancient gene sequences from past ancestors (apes) have shaped modern human physiology including immune systems; **(4)** His work also led to the **discovery of a previously unknown hominin**, which has been named **Denisova**.

Nobel Prize in Chemistry, 2022 – (1) The Nobel Prize 2022 in Chemistry has been awarded to three scientists, Carolyn Bertozzi and Barry Sharpless of the United States and Morten Meldal of Denmark; (2) Barry Sharpless and Morten Meldal have been awarded because they brought chemistry into the era of functionalism and **laid the foundations of ‘Click Chemistry’**; (3) Carolyn Bertozzi took click chemistry to a new dimension and began using it to map cells. Her bio-orthogonal reactions have contributed to **more targeted cancer treatments**, among many other applications.

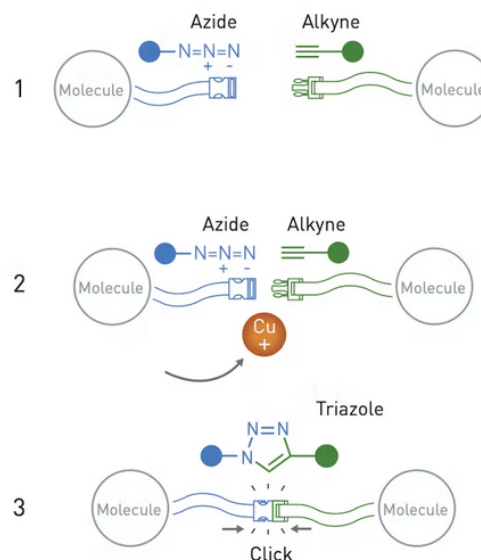
What is Click Chemistry? – (1) Chemists often try to **recreate complex chemical molecules found in nature**. This has applications in multiple fields including in the field of medicine e.g., to target and block pathogens in cells. However, this process is generally **complicated and time-consuming**; (2) Click Chemistry is a **way of generating products that follow examples in nature**. It is based on the premises that it is easier to produce complex molecules starting with smaller and simple molecules that have a tendency to bond together or easily react with each other. In other words, scientists should look for molecules that **easily fit into each other, or ‘click’ with each other**. It makes the resultant chemical reaction more efficient. This approach may **avoid many unnecessary side reactions** with a **minimal loss of material**; (3) The idea is also to not generate the exactly same complex molecule, but to find molecules that fulfil the same functions as complex molecule; (4) This click approach emphasised the need to **replicate nature’s efficiency**, not its processes, or products. The name ‘click’ has been taken from the click sound that airline seat belts make when they are fastened.

What is the significance of Click Chemistry? – (1) The concept of click chemistry is extremely beneficial to the pharmaceutical industry because it **reduces waste produced during chemical reactions**; (2) Meldal through his work came up with the useful chemical structure called **triazoles**, which are stable and are found in pharmaceuticals, dyes and agricultural chemicals; (3) Bertozzi has continuously improved her approach over the years. Her works **show promise in treating late-stage cancer**. Clinical studies of anti-cancer medicines inspired by her work are now undergoing clinical trials.

Nobel Prize in Physics, 2022 – (1) The Nobel Prize 2022 for Physics has been awarded to three scientists, Alain Aspect, John F Clauser and Anton Zeilinger, for their work on quantum mechanics; (2) They have been awarded for their experiments with **entangled photons**, establishing the violation of Bell inequalities and **pioneering quantum information science**.

The click reaction that changed chemistry

Azides and alkynes react very efficiently when copper ions are added. This reaction is now used globally to link molecules together in a simple manner.



Source: The Royal Swedish Academy of Sciences. The image shows that molecules Azide and Alkyne do not readily react with each other. Adding Copper ions, makes them to undergo reaction with each other easily (they ‘click’) to form the molecule Triazole.

What is Quantum Entanglement – (1) Quantum Entanglement has been an intensely debated phenomena in Physics. Albert Einstein had described this as ‘Spooky Action at a Distance’ (i.e., scary or ghostly). According to the **Special Theory of Relativity, no signal or information can travel faster than the speed of light in vacuum**; (2) However, in the Quantum Entanglement phenomena, **information between ‘entangled particles’ seems to violate this principle** (travel faster than light). It had been proposed (in 1930s by Einstein among others) that the phenomena of entanglement is not ‘real’ and there was something missing in the conception of Quantum Mechanics; (3) In 1964, a physicist John Bell showed mathematically what was required to establish the phenomenon of entanglement. He proposed the **Bell’s Inequality**, which if maintained in the results of the experiment, would mean that Einstein was right (i.e. Entanglement is not ‘real’). If violated, it would prove the predictions of Quantum Theory; (4) Aspect, Clauser and Zeilinger conducted a series of experiments on **entangled quantum states**, where **two separate particles behave like a single unit**. Clauser and Zeilinger worked on Bell’s ideas, and their measurements **supported quantum mechanics by violating a Bell Inequality**. The experiments of three scientists have conclusively established that the **‘entanglement’ phenomenon observed in quantum particles is real**, and not a result of any ‘hidden’ or unknown forces. Their work has demonstrated a phenomenon called **quantum teleportation**, which makes it possible to move a quantum state from one particle to one at a distance.

What is the significance of their works? – (1) Their works could be utilised to make revolutionary **technological advances in computing**; (2) There is potential for secure encrypted quantum communication which is claimed to be ‘hack-proof’.

7. Impact of Climate Change on Monetary Policy

News: The events driven by Climate Change will have an impact on the operation of Monetary Policies of Central Banks.

What are the major impacts of Climate Change on various economic parameters? – (1) Climate Change has posed both physical and transitions risks for the economy; (2) **Physical risks** include **extreme weather events** (like heavy rainfall, having short and medium term impacts) and **gradual warming and slow onset events** (like desertification, having medium and long term impacts); (3) There are **transition risks** which include risks and uncertainties associated with **transition to low-carbon economies** based on green energy resources (like Green Hydrogen) and technologies based on new approaches (like **Circular Economy**); (4) These risks will have **impact on economic parameters** (macroeconomic variables) like output, consumption, investment, employment, wages and inflation among others. For example (a) Extreme weather events will **destroy crops and infrastructure**. Thus the output will decrease in the short term (e.g., rice output is expected to fall in Kharif season 2022); (b) In the medium/long term, arable land might reduce due to **desertification**, reducing the output; (c) Money spent on mitigation measures (like reforestation, setting aside land for forests) will lead to diversion of funds from development activities; (d) In the medium-long term, the **productivity levels will fall** due to higher mortality and health issues due to altered climate patterns; (e) Climate induced migration will **reduce supply of labour** in regions impacted by extreme climate change events (like coastal cities at risk of submergence) and increase in regions considered safer. This will **impact wages** differently in different regions. Wages will have direct **impact on demand** and thus on **consumption, production/output** and **inflation**; (f) Disruption in supply chains will impact international trade. Sea level rise can impact trade routes as well; (g) Change in **energy consumption pattern** (shift away from fossil fuels) will alter the **trading pattern** and trade balance of nations, consequently impacting **exchange rates**.

Variables	Type of climate risk		
	Physical Risk Extreme weather events (Short-Medium Term)	Physical risk Gradual warming/volatile temperatures and precipitation patterns (Medium-Long Term)	Transition risk Transition to low-carbon economies (Short-Long Term)
Output	- Lower due to physical destruction (crop failures, disruption of supply chains and tourism)	- Lower due to lower labour productivity, investment being diverted to mitigation, and arable land losses.	- Policy uncertainty due to uncertain outcomes/impacts of climate change can disrupt output across sectors.
Consumption	- Lower due to increased uncertainty, e.g. to future income prospects. - Higher due to increased household demand to replace destroyed goods.	- Higher volatility due to shifts in sectoral demand.	- Likely lower due to increased sustainability awareness (e.g. preference for circular economy). - Shift towards greener goods, but the impact on total consumption is uncertain .
Investment	- Lower due to increased uncertainty and direct destruction of the capital stock. May pick up following an extreme event to rebuild destroyed infrastructure. - Diversion of investment away from productivity-enhancing investment and towards mitigation.	Shifts in investment towards climate adaptation technologies .	- Higher in investment towards climate mitigation technologies. - Overall, Lower because of higher uncertainty surrounding future policies.
Productivity	- Lower labour and capital productivity due to (possibly permanent) capital and infrastructure destruction.	- Lower labour productivity because of lower human capital accumulation (as a result of increased health issues and mortality). - Reduction in labour supply in sectors such as construction and agriculture, where it becomes less desirable to work in higher temperatures. - Increased international migration flows, might raise the labour supply in less affected regions .	- Effect on productivity uncertain because technological progress could offset the loss in productivity.
Employment	- Lower because of the destruction of physical assets and the dislocation of people from the immediate vicinity of a disaster area.		- Changes in sectoral composition of labour market (e.g., less supply in agriculture/construction) might trigger a rise in structural unemployment .

Variables	Type of climate risk		
	Physical Risk Extreme weather events (Short-Medium Term)	Physical risk Gradual warming/volatile temperatures and precipitation patterns (Medium-Long Term)	Transition risk Transition to low-carbon economies (Short-Long Term)
Wages	- Uneven effects across sectors and economies (agriculture, tourism and construction are most exposed in developing economies). - Reallocation of the workforce can generate labour shortages in some sectors where wages could increase temporarily. - Wage patterns contingent on the length of the disaster effects e.g., flooding	- Lower wages could result from lower productivity caused by gradual warming.	- Potential shift of workers from one sector to another and their training needs .
International trade	- Disruption of trade flows due to disasters could lead to lower incomes. - Supply chain interruptions can lead to supply disruptions . - Tourism may suffer from destruction of infrastructure.	- Disruption of trade routes due to geophysical changes (such as rising sea levels). - Increases in average temperatures could diminish export values.	- Taxes, regulations and restrictions might disrupt trade export routes . Changing international demand for different types of energy products may affect energy exporters and importers differently. - Risks of distortion from unilateral climate policies.
Exchange rate	- Depreciation pressure on currencies of economies affected by climate disasters, because of negative trade shocks and lower labour productivity .	- Depreciation pressure on currencies of economies frequently affected by climate disasters and losses of arable land , because of extreme temperatures.	
Inflation	- Increased inflation volatility , especially regarding food, housing and energy prices. - Impact on inflation expectations.	- Relative price changes due to shifting consumer demand.	- Energy prices affected most by climate-related transition policies, such as carbon taxes. - Policy uncertainty could weigh on inflation through its impact on investment, demand and inflation expectations.

What is the impact of Climate Change on Central Bank's ability to manoeuvre Monetary Policy? – Climate change will have a major impact on macroeconomic variables in future. The resulting changes in the economic systems will make it difficult for the Central Banks to ensure macroeconomic stability, control inflation and support employment generation: **(1)** The underlying reason of climate-induced inflation is **supply-side disruptions** (supply-side inflation e.g., due to damage to crops). Monetary policy has limited ability to control supply side inflation. Additionally, faulty policy prescriptions (like raising interest rates) can slow down growth rate of the economy; **(2)** It is **very difficult to quantify impacts of climate change**. There is an expectation that a particular parameter (say wages) may increase or decrease (even that is uncertain), but it very difficult to estimate by how much (5%, 10%, 20% and so on). The lack of clarity will make it difficult to **decide the policy instrument to use** (e.g., Repo Rate/CRR/MSF etc.) and the **quantum of change** (like 5/10/15 basis points or more); **(3)** Climate change will impact **monetary policy transmission**. Climate change will affect the balance sheets of financial intermediaries (like Banks) and asset valuations e.g., climate related disasters (and resulting destruction of infrastructure) may force some corporates to go bankrupt thus **increasing Non-performing Assets (NPAs)**. This will negatively impact **Banks' capacity to lend** leading to **discontinuity in monetary policy transmission**. Additionally, some long-term investments (e.g., in coal-based thermal power plants/oil

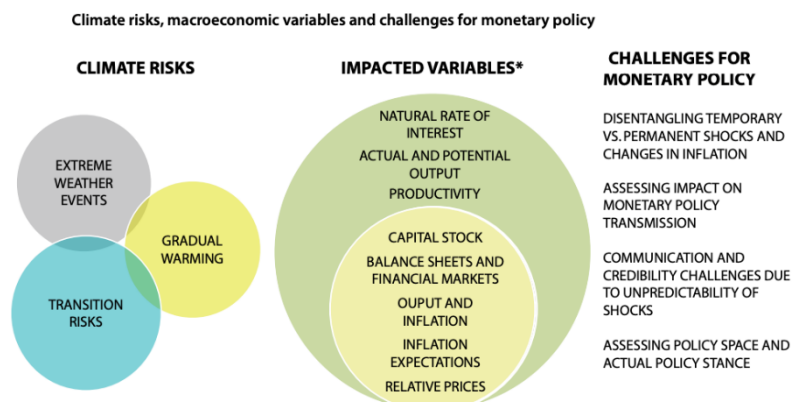
wells/coal mines etc.) may be rendered useless (**'Stranded Assets'**) due to transition of economy towards low carbon technologies. This asset revaluation will also constrain Banks' ability to provide credit to the economy; (4) The effects of climate change could make it harder for monetary policy decisions made by central banks to **affect how households and businesses can get money to spend and invest** e.g., losses from physical risks may reduce the ability of corporates to invest despite lowering of interest rates by the Central Bank; (5) Some economists argue that climate change could lower the **natural or equilibrium rate of interest** which balances savings and investment. This could **further diminish the space for conventional monetary policy** e.g., higher temperatures might impair labour productivity or increase rates of morbidity and mortality. Productive resources might be reallocated to support adaptation measures. Climate-related uncertainty may increase precautionary savings and **reduce incentives to invest**. Collectively, these factors can reduce the real equilibrium interest rate and therefore increase the likelihood that a central bank's policy rate will be constrained.

PT BOX

Natural/Equilibrium Rate of Interest

The natural rate of interest is also called the neutral interest rate, neutral rate, and the **long-run equilibrium interest rate**. This interest rate is the theoretical short-term interest rate that would **support the economy at maximum output or full employment GDP while keeping inflation constant**. The neutral rate is often referred to by Central Banks when making decisions about the Bank Rate. This neutral rate is essentially the dividing line between expansionary and contractionary monetary policy.

What should be the approach going ahead? – (1) There is a need to **develop a better understanding of the impact of climate change** on the macro economy, like productivity, output, inflation, risks to the financial system and the implications for monetary policy; **(2)** The RBI and other Central Banks should **update their economic models factoring in climate change** including risk assessment. The update models should account for energy transition, and the impact of climate change policies of the Governments; **(3)** Central Banks (RBI) should work closely with Market Regulators (SEBI) to develop new framework for **enhanced disclosure mechanisms related to climate-related information** (e.g., proportion of assets (say factories) located in climate vulnerable regions). This will increase general awareness and **understanding of climate risk**; **(4)** Central Banks should **clearly articulate the changes in their monetary policy** in context of climate change with the corporate sector, financial markets and the general public. Clear communication is a basic requirement for the success of the Monetary Policy.



The impact of climate change on macroeconomic parameters in the short to long term are still uncertain and difficult to quantify. This has posed a new challenge to the Central Banks in exercising the monetary policy. Central Banks must step up efforts, undertake further research to understand climate risks and incorporate them into their economic models. A proactive approach will help in better forecasting of risks and consequently a more effective policy response to mitigate the impacts of climate change on the economy.

8. Combating Food Wastage

News: ~2.5 billion tonnes of food produced annually goes unconsumed. ~870 million people globally are undernourished. Reducing food wastage by 50% can address global hunger.

What are the various reasons for increasing food wastage? – (1)

According to a study, ~35% of consumers fully understand the difference between terms such as 'best before', 'consume by' and 'expiry date' seen on date labels. This leads them to discard food items even when they are fit for consumption. According to a study, Indian households waste 50kg food, per capita; (2) Poor infrastructure facilities in supply chain (warehouses/cold chain transportation) leads to damages. In financial terms the harvest and post-harvest losses of major agricultural and allied produce amount to INR 92,651 crore yearly; (3) Poor demand forecast (e.g., in large consumer provision stores) leads to supply-demand mismatch causing wastage of perishables; (4) Low proportion of processing of food contributes to wastages. According to some estimates, only ~10% of the food is processed in India.

According to the UNEP Food Index Report, 2021, 61% of the global waste came from households, 26% from food service and 13% from retail.

What are the harmful impacts of food wastage? – (1) Greenhouse gas emissions take place in the **production, storage, transport, processing, packaging, distribution and consumption** of the food produced. The **wastage** of this food leads to additional emissions if it ends up in a landfill. According to the UNEP Food Index Report, ~8-10% of global greenhouse gas emissions are associated with food that is not consumed; (2) The agriculture sector is the **largest user of available freshwater**, which is already a scarce resource in countries like India. This is doubly harmful as it adds to **global warming** and leads to **loss of the precious resources** that have gone into production of this huge amount of food; (3) Food loss and waste cause about US\$ 940 billion per year in economic losses.

What should be done to reduce food waste? – (1) **Engage consumers and employees in managing food waste:** The world organisations need to bolster awareness-related initiatives. For instance, Unilever's Use-Up Day campaign aims to cut food waste by 33% by encouraging consumers to use ingredients they already have at least once a week;

(2) **Ensuring comprehensible labelling:** There is an urgent need for comprehensive labelling with clearly defined meanings easy to understand for the consumers; (3) **Collaborate across the entire industry value chain:** This can be done by: (a) Building agile and intelligent supply chains to enable transparency and strengthen the collaboration and data exchange with value-chain partners; (b) Using Internet-of-Things (IoT) solutions in cold chains to harness data-driven

LOSS OF AN OPPORTUNITY

₹92,651 Cr Value* of harvest and post-harvest losses of major agri and allied produce. Integrated cold chain solutions, value addition and setting up/modernisation of abattoirs can prevent such losses

*Calculated using production data of 2012-13 at 2014 wholesale prices; Source: Ministry of New and Renewable Energy, CIPHET (Ludhiana), Food Waste Index Report 2021 of UNEP

ANNUAL WASTAGE: AGRI, MILK, MEAT, MARINE AND POULTRY

Commodity/Crop	Overall Loss~ (%)	Monetary value of the loss (in ₹ crore)
Milk	0.92	4,409
Meat	2.71	1,235
Cereals	4.65-5.99	20,698
Pulses	6.36-8.41	3,877
Oilseeds	3.08-9.96	8,278
Fruits & Vegetables	4.58-15.88	40,811

~farm operations, transportation, storage

GLOBALLY, A FIFTH OF ALL FOOD IS WASTED

5.3 bn tonnes
Food available annually for global consumption

931 million tonnes
Food waste (17% of total)

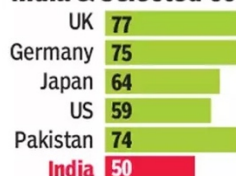


African Countries Lead Wastage

List (Top 5 - Kg/Capita/Year)



India & selected countries



121 kg
Yearly global per capita food wastage

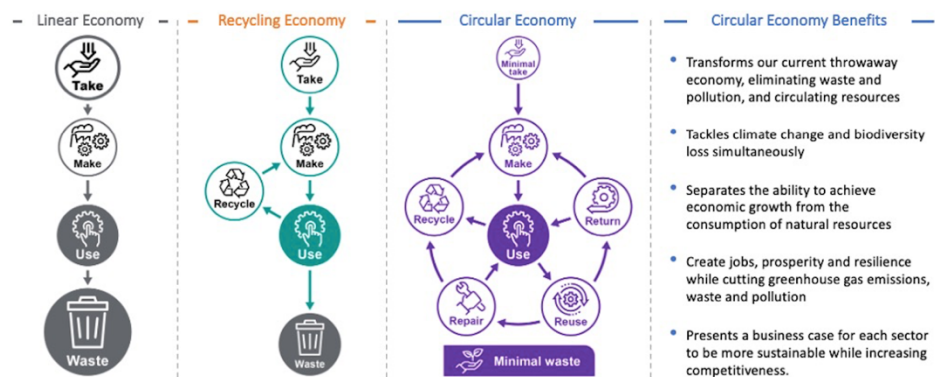
insights, **enhance traceability** and **monitor the quality of perishables**; (c) Boosting local supply chains; (d) Regionalizing and localizing the supplier base; (4) **Monitor and report food waste-related benchmarks**: Organizations need to set food waste reduction goals, establish relevant metrics, track and report progress. This will also help in reporting waste volumes and attaching a dollar value to it. For instance, Sodexo has implemented a data-driven food-waste prevention programme that has already cut the organization's food wastage by ~50%; (5) **Prevent of food waste occurrence**: Organizations at every stage of the food value chain need to manage waste better. Technology can also help in tracking and assessing food waste and enabling action at the right time, while enlisting consumers for the task of waste reduction.

9. Circular Economy: Meaning, Benefits and Opportunities

News: Circular Economy can ensure sustainable utilization of resources and lower the ecological footprint.

What is the meaning of Circular Economy? – (1) The circular economy is a model of production and consumption, which involves **sharing, leasing, reusing, repairing, refurbishing and recycling existing materials and products as long as possible**. In this way, the life cycle of products is extended; (2) This is a departure from the traditional, **linear economic** model, which is based on a **take-make-consume-waste pattern**. The linear model relies on large quantities of cheap, easily accessible materials and energy; (3) Circular Economy is based on three principles, driven by design: (a) Eliminate waste and pollution; (b) Circulate products and materials (at their highest value); (c) Regenerate nature; (4) In a circular economy, waste is minimized. Products and raw materials are **designed to be reused** as long and intensive as possible over and over again. Waste is the new raw material; (5) Circular Economy is not just about recycling waste materials. Recycling begins at the end of the product's lifecycle, when it is thrown away. The circular economy goes right back to the beginning to **prevent waste and pollution from being created in the first place**. It is based on the premises that the environmental challenges have already reached a stage where even recycling alone won't be enough to address them. Hence, **Circular Economy is distinct from Recycling Economy model**. One example of Circular Economy is the use of microbial biodegradable polymers produced from agro-food waste residues for packaging of food items. This will **eliminate use of**

plastics and the need of recycling. Waste generation is minimal in Circular Economy; (6) According to the **Circularity Gap Report 2020**, the global economy is only 8.6% circular. This means that over 90% of the resources that enter the economy (100 billion tonnes per year) are wasted.



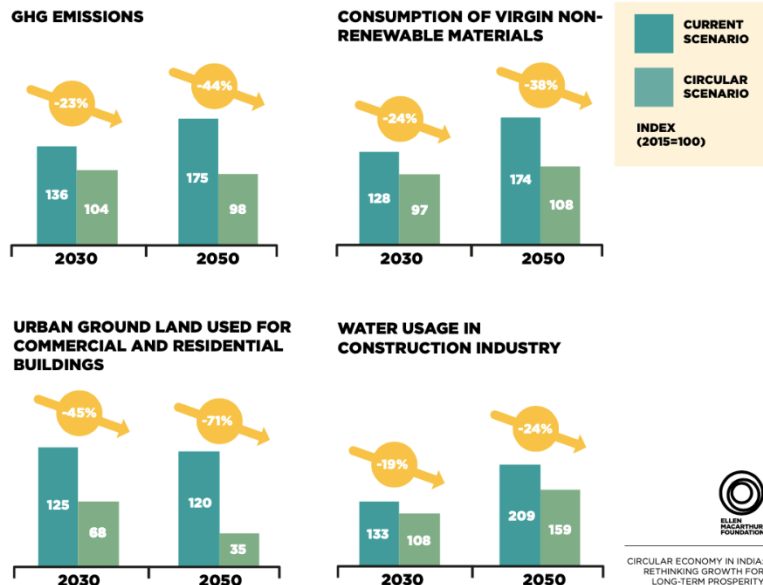
What are the benefits of Circular Economy? – (1) **Protection of the environment:** (a) Circular economy consumes fewer natural resources and reduces ecological footprint; (b) It helps lower the emissions and produces less polluting waste; (c) It helps in preservation of biodiversity, as there is less pressure on forests; (2) **Benefits for the local economy:** There is emphasis on promoting production models that rely on reuse of nearby waste as raw material; (3) **Drives employment growth:** Circular Economy fosters the

development of a new, more inventive, and competitive industrial model, resulting in higher economic growth and more employment opportunities; **(4) Promotes resource independence:** Reusing local resources can reduce reliance on imported raw materials. It can help in achieving self-sufficiency.

What is the need for Circular Economy in India? – (1) Pressure of Population:

According to a World Bank Report, there are more than 190 million people in India living on less than US\$ 2.15 per day (poverty line). Lifting them out of poverty will put a massive strain on natural resources; **(2) Limited Resources:** India's resource base is limited with only 2% of world's landmass and 4% of freshwater resources, while accounting for ~18% world's population. Linear Economy model will constrain India's manufacturing. India is dependent on imports. It raises India's Current Account

Deficit and puts a strain on Government finances; **(3) Environmental Concerns:** According to the Global Footprint Network, India's Ecological Footprint has been rising consistently. Consequently India's Biocapacity deficit has increased from -0.1 gha in 1961 to -0.8 gha in 2018. Moreover, as resource intensity of India's economy increases, the emissions are also rising. A circular economy development path could significantly mitigate negative environmental externalities e.g., greenhouse gas (GHG) emissions could be 23% lower in 2030 and 44% lower in 2050 compared with the current development scenario; **(4) Economic Benefits:** According to EM Foundation, a circular economy development path in India could create annual value of INR 14 lakh crore (US\$ 218 billion) in 2030 and INR 40 lakh crore (US\$ 624 billion) in 2050 compared with the current development scenario. By adopting circular economy approaches, businesses could achieve **material cost savings** and **increase their profits**; **(5) Technology Hub:** Leveraging digital technology to enable the circular economy could reinforce India's position as a hub for technology and innovation.



What steps have been taken by the Government to promote Circular Economy? – (1) The Government has notified rules like the Plastic Waste Management Rules, e-Waste Management Rules, Construction and Demolition Waste Management Rules, Metals Recycling Policy, etc.

The Rules are geared towards reducing waste generation and maximizing recycling of waste; **(2) NITI Aayog** has undertaken several

Opportunities in Circular Economy

Construction

- Circular Economy Principles can be incorporated into **design of the infrastructure** (buildings, water, sanitation, waste treatment infrastructure) to create more effective material cycles/**reduce waste**.
- **Systemic planning**, integrated with **circular mobility solutions**, can provide higher air quality, lower congestion, and reduce urban sprawl.

Food and Agriculture

- Combining **local knowledge** and **traditional methods** with **modern technology** (like precision farming) can **increase yield**, reduce requirements for resources like water, synthetic fertilisers, and pesticides.
- Reducing food waste across the supply chain by optimising production and digitising food supply chains.
- Urban and peri-urban farming can **bring food production closer to consumption**, reducing food waste and transportation requirements.

Mobility

- **Vehicle as a service model** can provide convenient last-mile connectivity.
- Incorporating reparability, remanufacturing, and recycling in vehicle design can reduce material needs.
- Building vehicles that rely on **zero-emission propulsion technology** could reduce negative externalities.

Created by | ForumIAS

initiatives to address the challenges in the **utilization of waste as resource** and to evolve a perspective on the recycling industry in India. Progress has been made in promoting the **usage of fly ash and slag produced in the steel industry in other sectors**; (3) NITI Aayog has organized international conference on 'Sustainable Growth through National Recycling' and has prepared strategy papers for resources efficiency in sectors like Steel, Aluminium, Construction and Demolition and e-waste; (4) To expedite the transition of the country from a linear to a circular economy, 11 committees have been formed for 11 focus areas. The committees will prepare comprehensive action plans for transitioning from a linear to a circular economy and monitor their effective implementation.

What should be the approach going ahead? – (1) The Government can **incentivize India's production systems** to adopt practices around the principles of circular economy so that they reduce resource dependence and gain competitiveness. This requires a close collaboration between the Government and industry; **(2)** Businesses can **integrate circular economy principles into their strategy and processes**. They can train current and prospective employees on **circular product design** and new business models. They can also collaborate with other businesses, policymakers, and the informal economy to drive the change; **(3)** Circular and local models have proven to be more resilient and efficient in addressing the needs of the masses. The Government should **encourage local alternatives** to enable local supply chains; **(4)** So far the focus of Government's effort has been more on recycling. Now the focus should shift up the value chain to **include principles of circular economy in the design and manufacturing stages**. The effort should be geared towards creating enabling regulatory frameworks and removing policy barriers; **(5)** The Government can also support circular models through public procurement and infrastructure. This could help kick-start those models to stimulate their wider adoption in the market; **(6)** **Circular economy principles** should be **embedded into education**. Bringing circular economy principles into education, from school through to professional development, can equip learners with the right systems thinking skills and mindsets to become active shapers of a circular economy.

As India embarks on its path to become a developed economy, adopting a Circular Economy model will ensure that this growth is sustainable with minimal impact on environment.

10. Chief of Defence Staff (CDS): Benefits and Challenges

News: The Government has appointed Lt. Gen. Anil Chauhan as the next CDS. He is expected to carry on the reforms process in the defence forces initiated by his predecessor Gen. Rawat.

What is the post of CDS? – (1) The Chief of Defence Staff (CDS) is the **highest-ranked officer** of India's armed forces; **(2)** The CDS is the Chairperson of the Chief of Staff Committee (CoSC). He is the single-point military adviser to the Union Government and brings synergy and integration in the matters of the tri-services i.e. the Army, Navy and Air force; **(3)** The CDS is a 3 or 4-Star General belonging to any of the three forces of the Indian armed forces; **(4)** The post of the CDS was first officially

Roles of the CDS

- The CDS **heads the DMA** and acts as its ex-officio Secretary.
- The CDS is the permanent **Chairperson of the Chiefs of Staff Committee (CoSC)**.
- The CDS is a member of the **Defence Acquisition Council** and the **Defence Planning Committee**.
- The CDS acts the **principal military advisor** to the **Defence Minister** on all matters related to the tri-services.
- The CDS acts as **military advisor** to the **Nuclear Command Authority (NCA)**.
- The CDS has a responsibility for **coordination among the three services** in equipment and arms procurement, training and staffing.
- The CDS **assigns inter-services prioritisation** to capital acquisition proposals (i.e., procuring new equipment) based on the anticipated budget.
- The CDS is also charged with **bringing about reforms** in the functioning of the three services with the aim to **augment combat capabilities** of the Armed Forces by reducing wasteful expenditure.

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recommended by the Group of Ministers (GoM) in 2001 based on the recommendations of the **K Subrahmanyam Committee** (Kargil Review Committee (KRC)) in 2000. Similar recommendations were given by the **Naresh Chandra Task Force** (2012) and the **Lieutenant General D. B. Shekatkar Committee** in 2016; (5) The decision to create the post of CDS was taken by the Cabinet Committee on Security in December 2019. Gen Bipin Rawat took charge as the first CDS on January 01, 2020; (6) The **Department of Military Affairs (DMA)** was created in the Ministry of Defence (MoD) on January 01, 2020. The DMA has been created with the purpose of **promoting jointness of tri-services** in various areas such as procurement, training and staffing. Its mandate includes **facilitation of restructuring of military commands**

for optimal utilisation of resources including through **establishment of joint or theatre commands**.

Why are the benefits of the CDS? – Several initiatives have been undertaken under the aegis of the CDS.

(1) It is necessary to have a professional body to render **single-point military advice** to the Government on matters of national security. The DMA will achieve better results through effective coordination between the Armed Forces and the Civil leadership. This will help **facilitate inter-service integration** and **better civilian-military coordination**; (2) It will also strengthen the **process of Joint Planning, Operations and Procurement**, thereby making Armed Forces more effective. Under this new Department, the Logistics structure is being fully revamped to make it more efficient. The three **Joint Services Study Groups (JSSG)** are developing common logistic policies for Services that will enhance all supply chain functions such as planning, procurement, inventory-maintenance, distribution, disposal and documentation; (3) A concerted effort is being made to move forward from a **Single Service approach to integrated planning and execution**; (4) In order to enhance Combat Capability and balance defence expenditure, more than 270 logistic installations of the Indian Army have been closed or scaled down, resulting in substantial savings to the exchequer. It will also help in **increasing the 'Teeth to Tail' ratio**; (5) A holistic review of the training methodology is also underway to modernise, integrate and rationalise training, as also to ensure optimal utilisation of infrastructure and resources; (6) A 'Tri-Services Joint Working Group' has also been setup to study and work out the nuances of **integrating Communication Networks** between the Services.

PT BOX

Teeth to Tail Ratio

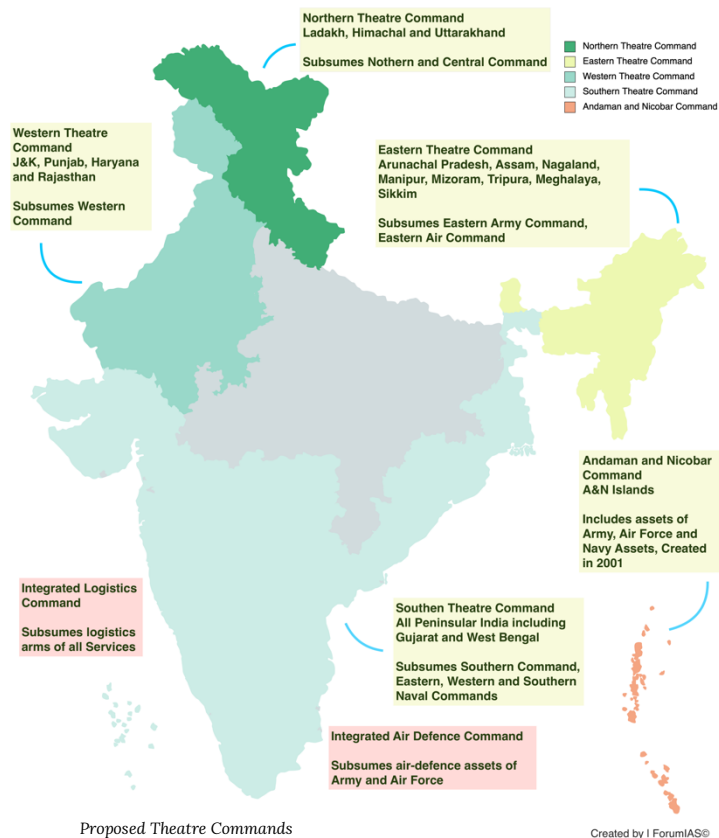
The **teeth-to-tail ratio** (T3R) is the amount of military personnel required to supply and support ('tail') each combat soldier ('tooth'). **Teeth-to-tail ratio is often inversely related to its technological capabilities.** A force with a high teeth-to-tail ratio will have more personnel devoted to combat, but these soldiers will lack the support provided by the tail. Such support includes the logistics and communication infrastructure. A force with a higher teeth-to-tail ratio may have more combat troops, but each will be less effective.

What are the challenges before the CDS? – (1) Bringing **jointness in operations** including through establishment of **integrated theatre commands** is a complex task. This may invariably encroach upon the domain of the services chiefs and will face resistance during conception and implementation (*Refer EPIC December 2021 for Integrated Theatre Commands*); (2) Another hurdle will be to **prioritize the budget allocation** and acquisition of latest technologies in order to meet the requirements of the tri-services. The 3 services have competing claims (e.g., to build new aircraft carrier for the Navy or more fighter jets for the Air Force), and it will be difficult to establish balance. The CDS will have to ensure efficient logistics resource management and avoiding duplicity of effort. This can be carried out by streamlining the current policies and preparing a Joint Logistics Doctrine; (3) In the operational realm, the biggest challenge will be aligning operational preparedness to meet a **2-front threat** (China and Pakistan). Combined with the threat of proxy war, makes

it a **two and a half front war** (internal threats); **(4)** The biggest and foremost challenge is to prepare the military for **next-generation warfare**. This includes Non-Contact Operations (Like cyber/information warfare), Low Intensity Conflict, Asymmetric Warfare and Network Centric Warfare. There are also challenges related to **raising the technology threshold** and dealing with nuances of multi domain warfare. In fact, the nation has to be prepared, as some of these threats cut across all boundaries, extending beyond the military domain.

What steps can be taken going ahead? – (1)

The CDS has to make an integrated capability development plan to ensure a synchronised modernisation among the services. A **National Security Strategy** will be of great help in laying down the pathways to achieving security, thus assisting in inter-services prioritisation; **(2)** The integration between the DMA and MoD needs to be enhanced with time and more cross postings at higher levels will help in achieving the desired **civil-military balance**; **(3)** There is need to incentivise the entry of **private sector in defence industry** and hand holding of the defence industry by respective service in trying to develop weapons and equipment; **(4)** Greater synergy is also required between economic and diplomatic affairs. **Military to military cooperation can assist in improving bilateral relations**. It will be beneficial to grouping of nations like the QUAD and SCO.



The Indian armed forces are in midst of a transition. New age technologies are changing the nature of warfare. Non-contact warfare is gaining primacy and more lethality. China has been very aggressive in Ladakh. It is in this backdrop that the transformation of the armed forces and the integration of the services must take place. The role played by the CDS assumes criticality in this regard.

Polity

1. Supreme Court's Observation Related to Marital Rape

News: The Supreme Court recently gave a verdict related to the Medical Termination of Pregnancy Act. The Court observed that for abortion, marital rape would be recognized as rape.

Supreme Court's Observation on Abortion due to Marital Rape

The Supreme Court has held that the meaning of rape must be held to include 'marital rape' for the purpose of the Medical Termination of Pregnancy Act and Rules. It held that wives, who conceived out of forced sex by their husbands will also come within the ambit of **survivors of sexual assault or rape or incest under the MTP Act**. Hence, she can also go for an abortion without the requirement of anybody else's consent.

However, the Court clarified that its interpretation **only applies to the Medical Termination of Pregnancy Act** and would not have any effect on the challenge to the marital rape exception under the Indian Penal Code that is pending before the Supreme Court.

Significance

Experts see this as a first step in the direction of eventually removing the marital rape immunity in law. Section 375 of the Indian Penal Code defines the offence of rape, but carves out an exception for sexual intercourse between a married couple. (Refer EPIC January 2022 for Gender Issues: Marital Rape).

2. Supreme Court's Order on Section 66A of IT Act

News: The Supreme Court has ordered States to stop registering cases under Section 66A of the Information Technology Act. The Section had been declared unconstitutional by the SC in 2015.

About Section 66A of the IT Act

Section 66A of the IT Act, 2000 had prescribed 3 years' imprisonment if a social media message caused 'annoyance' or was found "grossly offensive".

In **Shreya Singhal Vs. Union of India (2015)**, the SC had struck down this section calling it 'vague' and 'arbitrary'. But despite that the police has continued to prosecute people under the Section. The SC has found this as '**distressing**' and '**shocking**'.

SC Order on Cases under Section 66A

The SC has directed all Directors General of Police, Home Secretaries of the States and competent officers in Union Territories to instruct their entire police force in their respective States/UTs not to register any complaint of crime with respect to alleged violation of Section 66A. The SC clarified that this direction would apply only to a charge under Section 66A and not extend to other offences in a case.

3. Report of Committee of Parliament on Official Language

News: The Committee of Parliament on Official Language has submitted its 11th Report to the President.

Recommendations of the Committee

The Committee has framed the recommendations as per the new National Education Policy which suggested that the medium of instruction should either be official or regional languages.

(a) Local languages should be given preference over English in all States.

(b) The medium of instruction in technical and non-technical higher education institutes such as IITs in Hindi-speaking states should be Hindi and in other parts of India their respective local language. The use of English should be made optional in these institutes.

(c) Hindi should be given a **respectable place in 'A' category States**, and it should be used 100%. For instance, the higher education institutions such as Banaras Hindu University, Delhi University, Jamia Milia Islamia, and Aligarh Muslim University, Hindi is being used only 20-30% classes.

Categories of States

States like Tamil Nadu and Kerala are exempt as per The Official Languages Act, 1963 and the Rules and Regulations (of the Act), 1976. The law is implemented only in 'A' category states, in which the official language is Hindi.

Region 'A' includes the states of Bihar, Haryana, Himachal Pradesh, Madhya Pradesh, Chhattisgarh, Jharkhand, Uttarakhand, Rajasthan, and Uttar Pradesh, and the Union Territories of Delhi and Andaman and Nicobar Islands.

Region 'B' includes Gujarat, Maharashtra, and Punjab, and the UTs of Chandigarh, Daman and Diu and Dadra and Nagar Haveli.

Region 'C' included other States where the use of Hindi is less than 65%. (Refer EPIC April 2022 for Hindi as Link Language: Challenges and Suggestions).

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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4. Backlog in RTI Applications

News: According to a report, nearly 3.15 lakh complaints and appeals are pending with 26 Information Commissions across India.

Current Status of RTI Complaints/Appeals

Incremental backlogs: The backlog of appeals/complaints in Commissions is increasing every year. It has increased from 218,347 in 2019 to 314,323 in 2022. The large backlog of cases has resulted in a long waiting time for disposal.

States with high backlogs: The highest number of pending cases was in Maharashtra (99,722), followed by Uttar Pradesh (44,482), Karnataka, the Central Information Commission and Bihar.

Defunct information commissions: Two Information Commissions (Jharkhand and Tripura) have been completely defunct for 29 months and 15 months respectively.

Lack of enough manpower: Several information commissions, including the Central Information Commission, are working at reduced capacity with less than the stipulated number of members in office.

Another report mentions that ~25% of Information Commissioner posts are vacant and there are only 5% (only 8) women Information Commissioners in the country. (Refer EPIC August 2022 for RTI Act: Benefits and Concerns).

5. Addition of Communities to the Scheduled Tribe (ST) List

News: The Union Cabinet has approved the proposal to add several tribes to the list of Scheduled Tribes in States of Himachal Pradesh, Tamil Nadu, and Chhattisgarh.

Communities added to the ST List

(a) The **Hatti tribe** in the Trans-Giri area of Sirmour district in Himachal Pradesh; (b) **Narikoravan and Kurivikkaran hill tribes** of Tamil Nadu; (c) **Binjhia tribe** in Chhattisgarh. The tribe was listed as ST in Jharkhand and Odisha but not in Chhattisgarh.

Number of Scheduled Tribes

According to the Census 2011, there are 705 ethnic groups listed as Scheduled Tribes under Article 342. Over 10 crore Indians are notified as STs, of which 1.04 crore live in urban areas. The STs constitute 8.6% of the total population and 11.3% of the rural population.

Addition of Communities to SC/ST List

The process begins at the level of a State/UT with the concerned Government/Administration seeking the addition or exclusion of a particular community from the SC/ST list. The final decision rests with the President's Office issuing a notification specifying the changes under powers vested in it from Articles 341 and 342.

The inclusion or exclusion of any community in the Scheduled Tribes or Scheduled Castes list comes into effect only after the **President assents to a Bill that amends the Constitution (Scheduled Castes) Order, 1950 or the Constitution (Scheduled Tribes) Order, 1950** after it has been passed by the Parliament.

Criteria for Addition to SC/ST List

The Government looks at several criteria, including its ethnological traits, traditional characteristics, distinctive culture, geographical isolation and backwardness.

However, the Supreme Court has recently said that it wanted to fix fool-proof parameters to determine if a person belongs to a Scheduled Tribe. The Supreme Court has now referred the question of fixing the parameters to a larger Bench.

6. 'Local Resident' Domicile in Jharkhand

News: The Cabinet of Jharkhand Government has approved the draft of 'Local Resident of Jharkhand Bill'.

Purpose of Draft 'Local Resident of Jharkhand Bill'

According to the Bill, a local will be a person whose name or his ancestors' name is recorded in the survey or *khatiyani* of **1932** or before. In case of persons who are landless, local persons shall be identified by the Gram Sabhas based on the culture, local customs and tradition among others.

Reason for 1932 as Cut-off Year

The draft Bill says that living conditions, customs, traditions, and social development of the *moolwasis* and people from tribal communities, have been negatively impacted due to pre and post-1932 migration of people from other states to Jharkhand (erstwhile Bihar).

Benefits to Locals

The locals will receive certain rights like preferential treatment: (a) Over their land; (b) Stake in the local development of the rivers, and lakes; (c) Local traditional and cultural and commercial enterprises; (d) Their rights over agricultural indebtedness or availing agricultural loans; (e) Social security; (f) Employment both in private and public sector; (g) Trade and commerce in the State.

Possible Legal Challenge

In 2002, the Jharkhand Government had brought a similar bill, but it was struck down by the Courts.

The Jharkhand Cabinet Note gives an indication that this Act will not come into force until it is included in the **Ninth Schedule of the Constitution** to avoid judicial scrutiny. The State Government will send the Act to the Union Government and request a Constitutional amendment for its inclusion in the Schedule.

The Ninth Schedule of the Constitution contains a list of Union and State laws which cannot be challenged in courts. However, the SC has said that it can be reviewed if it violates the fundamental rights or the basic structure of the Constitution.

7. Nordic Model of Social Democracy

News: The Nordic Model of Social Democracy offers lessons to the developing world including India.

About the Nordic Model

The Nordic (Scandinavian) model, is the combination of social welfare and economic systems adopted by Nordic countries (Sweden, Norway, Finland, Denmark, and Iceland). It **combines features of capitalism**, such as a market economy with **social benefits**, such as state pensions and income distribution.

Advantages of the Nordic model

The Nordic model provides **equality and social mobility**. Everyone has free access to decent public services including education and healthcare. People are happy to pay their taxes to make sure that this continues. These collective benefits are merged with entrepreneurship, creating an efficient blend of capitalism and socialism or 'cuddly capitalism'.

Criticism of Nordic Model

Opponents of the Nordic model criticize the high taxes, high degree of government intervention, and relatively low gross domestic product (GDP) and productivity, noting that these all limit economic growth. They point out that the Nordic model redistributes assets, limits the amount of money available for personal spending and consumption, and encourages reliance on government-subsidized programs.

Challenges faced by Nordic Model

Ageing Population: The demographic shift, with higher share of older population and falling number of tax payers will impact the sustainability of Government finances.

Influx of Immigrants: These countries attract a notable influx of newcomers seeking to enjoy generous public benefits. These new arrivals can present a significant burden to the system and could ultimately, result in its demise.

Policy

1. Agreement with Tribal Groups in Assam

News: The Government of India has signed a tripartite agreement with the Government of Assam and 8 armed tribal groups in Assam to give them political/economic rights and bring them into the mainstream.

Key terms of the Agreement

The agreement was signed to end the decades-old crisis of Adivasis and tea garden workers in Assam. According to the terms of the settlement, the **armed Adivasi cadres will give up violence**, follow the rule of law and join the peaceful democratic process.

The Governments of India and Assam in return will fulfil the Adivasi groups' political, economic and educational aspirations which include: **(a)** Protect, preserve and promote their social, cultural, linguistic and ethnic identity;

(b) Ensure focused and rapid development of tea gardens and Adivasi villages of Assam; (c) Establish an Adivasi welfare and development council; (d) Rehabilitate armed cadres and ensure welfare of tea garden workers; (e) Provide a INR 1,000-crore special development package for upgradation of infrastructure in Adivasi villages.

Significance of the Agreement

The tripartite agreement with the Adivasi groups is the latest in the series of peace accords signed by the Union Government and relevant State governments since 2014 with different insurgent groups in the northeast region. These include settlement with **National Liberation Front of Tripura (SD)** (2019), the **Bru-Reang Agreement** (2020) and **Bodo Accord** (2020), **Karbi Anglong pact** (2021) and the **Assam-Meghalaya Inter-state Boundary Agreement** (2022).

Status of Insurgency in India

Since 2014, around 8,000 insurgents have joined the mainstream of society by laying down their arms. The year 2020 recorded the lowest number of insurgency incidents in the last two decades. There has been a **74% reduction in the incidents of insurgency** between 2014-2021. In the same period, there has been a 60% reduction in the casualties of security forces and 89% in the number of civilian casualties.

2. Breakfast Scheme in Government Schools in Tamil Nadu

News: The Government of Tamil Nadu has launched the Chief Minister's Breakfast Scheme for students of Class I to V in Government Schools.

About the Chief Minister's Breakfast Scheme

Its aim is to encourage more children to continue to come to school and help prevent dropouts at the primary level.

The children in government schools from Class I to V will get nutritious breakfast provided in their schools every morning. The breakfast will be served from Monday to Friday. Tamil Nadu has been the pioneer of the midday meal scheme. The first initiative to provide meals to children had been taken by the erstwhile Madras Municipal Corporation around 1920. In post-independence India, Tamil Nadu was again the pioneer, with a scheme rolled out in 1956. This scheme was later emulated by the Union Government through the midday meal scheme.

Benefits

This scheme will take care of hunger, calorific energy and micronutrient requirements of the children. Studies show that there are many benefits of eating breakfast regularly. It improves the student's ability to focus, learn and retain information positively. This leads to the improvement in performance and learning outcomes of the children. A regular breakfast will help in addressing issues like anaemia, wasting and stunting in children. Pilferage, poor quality of food, delays in sanctioning funds, and caste-related disruptions should be avoided. Other states can also learn from Tamil Nadu to enact the free breakfast scheme to ensure the growth and development of the children.

3. Child Mortality in India

News: Registrar General of India has released the Sample Registration System (SRS) Statistical Report 2020. India has witnessed progressive reduction in Infant, Under 5 and Neonatal Mortality.

Key Findings from the Report

Under 5 Mortality Rate (U5MR): It has shown a significant decline from 35 per 1000 live births in 2019 to 32 in 2020. It varies from 36 in rural areas to 21 in urban areas.

U5MR for females is higher (33) than for males (31). The highest decline of U5MR is observed in the states of Uttar Pradesh and Karnataka.

11 States/UT have already attained the SDGs target of U5MR (≤ 25 by 2030): Kerala, Tamil Nadu, Delhi, Maharashtra, J&K, Karnataka, Punjab, West Bengal, Telangana, Gujarat and Himachal Pradesh.

Indicator	SRS 2014	SRS 2019	SRS 2020
Crude Birth Rate (CBR)	21.0	19.7	19.5
Total Fertility Rate	2.3	2.1	2.0
Early Neonatal Mortality Rate (ENMR) (0-7 days)	20	16	15
Neonatal Mortality Rate (NMR)	26	22	20
Infant Mortality Rate (IMR)	39	30	28
Under 5 Mortality Rate (U5MR)	45	35	32

Infant Mortality Rate (IMR): It has registered a 2-point decline to 28 per 1000 live births in 2020 from 30 in 2019. The Rural-Urban difference has narrowed to 12 points (Urban 19, Rural 31). No gender differential has been observed in 2020 (Male 28, Female 28).

Neonatal Mortality Rate: It has declined by 2 points from 22 per 1000 live births in 2019 to 20 in 2020. It ranges from 12 in urban areas to 23 in rural areas.

Six (6) States/UTs have already attained the SDG target of NMR (≤ 12 by 2030): Kerala, Delhi, Tamil Nadu, Maharashtra, Jammu & Kashmir and Punjab.

4. Status of Fertility in India

News: According to the SRS (2020) the General Fertility Rate (GFR) has declined by 20% over the decade.

Key Findings from the SRS Data

General Fertility Rate (GFR): It refers to the number of children born per 1,000 women in a year in the reproductive age group of 15-49 years. The average GFR in India stood at 86.1 from 2008 to 2010 (a 3-year period) and has come down to 68.7 during 2018-20.

The decline has been steeper in rural areas at 20.2% compared to 15.6% in urban areas. Among the States/UTs, Jammu & Kashmir has witnessed a maximum decline in GFR followed by Delhi, Uttar Pradesh, Jharkhand and Rajasthan between 2008-10 and 2018-20.

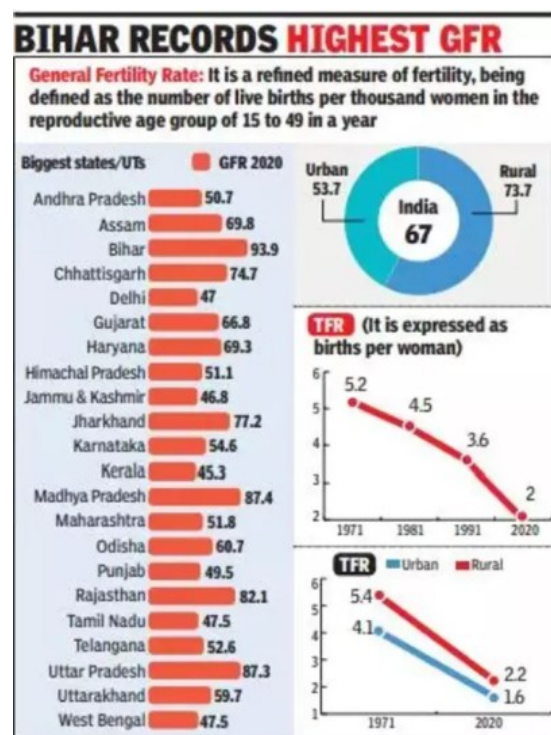
Reasons

Increase in the age of marriage, the improved literacy rate among women and easy availability of contraceptive methods are some of the key factors behind this change.

Fertility Rate

The Total Fertility rate (births per woman of reproductive age) in India is 2 as per the latest SRS data.

Bihar has reported the highest TFR (3.0) while Delhi, Tamil Nadu and West Bengal have reported the lowest TFR (1.4). The TFR of a rural woman is 2.2 at the national level which is higher than that of an urban woman (1.6).



5. Progress under National Health Mission

News: The Union Cabinet was recently informed about the progress under National Health Mission.

About the National Health Mission (NHM)

National Health Mission (NHM) was launched by the government of India in 2013 subsuming the National Rural Health Mission (Launched in 2005) and the National Urban Health Mission (Launched in 2013).

The main programmatic components include Health System Strengthening in rural and urban areas, Reproductive-Maternal-Neonatal-Child and Adolescent Health (RMNCH+A), and **Communicable and Non-Communicable Diseases**.

Its aim is to provide financial and technical support to States to enable them to provide accessible, affordable, accountable, and effective healthcare up to District Hospitals (DHs) especially to the poor and vulnerable sections of the population.

Achievements under the Mission

Under-five mortality rate (U5MR): It has declined from 49 in 2013 to 36 in 2018. According to the SRS 2020, U5MR has further reduced to 32.

Maternal Mortality Ratio (MMR): It has declined by 443 points from 556 per one lakh live births in 1990 to 113 in 2016-18.

Infant Mortality Rate (IMR): It has declined from 80 in 1990 to 32 in the year 2018. According to the SRS 2020, IMR has further reduced to 28.

Total Fertility Rate (TFR): TFR in India declined from 2.3 in 2013 to 2.2 in the year 2018. SRS 2020 has put latest TFR at 2.0.

Malaria: In the year 2020, malaria cases and deaths have declined by 46.28% and 18.18%, respectively.

TB Cases: The incidence of TB per 1,00,000 population has been reduced from 234 in 2012 to 193 in 2019. The mortality due to TB per 1,00,000 populations for India reduced from 42 in 2012 to 33 in 2019.

Kala Azar: The percentage of Kala Azar (KA) endemic blocks, achieving the elimination target of < 1 KA case per 10000 population, increased from 74.2% in 2014 to 97.5% in 2020-21.

6. NCERT Guidelines on Mental Health

News: NCERT has issued guidelines 'Early identification and intervention for mental health problems in school-going children and adolescent'.

Reasons for Mental Stress and Anxiety among School-going Children

The major causes are Exam and peer pressure, parental expectations and a decline in satisfaction with personal and school life.

Key Guidelines issued by NCERT

(a) Schools should establish a Mental Health Advisory Panel with Principal, teachers, parents, students, and alumni as members. It should create awareness, plan and enforce an age and gender-appropriate annual school mental health programme.

(b) Mechanisms should be in place for early Identification of behavioural patterns in students including substance use and self-harm.

(c) Teachers must be trained in identifying early signs in students for attachment issues, separation anxiety, anxiety patterns, depressive states, excessive internet use, intellectual and learning disabilities.

(d) Teachers should talk about bullying cases in class and empower students by educating them regarding bullying.

Government Initiatives to tackle Mental Health among School Children

Manodarpan: It aims to address the psychosocial issues of students. It includes support and counselling sessions for students in regard with their mental health and wellbeing.

NCERT Counselling Services for School Children: This initiative was launched in April 2020 to support students' mental health amid the Covid-19 pandemic.

SAHYOG: Guidance for Mental Wellbeing of Children: This includes live interactive sessions mental well-being of children.

Wellbeing material by NCERT: NCERT has developed a comprehensive package known as 'Training and Resource Material: Health and Wellness of School-going Children'. It includes a specific module on 'Emotional Well-being and Mental Health', which has activities related to the mental health and well-being of students and teachers.

7. State of the Education Report for India: Artificial Intelligence in Education - UNESCO

News: UNESCO has released the State of the Education Report for India: Artificial Intelligence in Education. This is the 4th edition of the Annual Report.

Key Findings of the Report

India has the highest relative AI skill penetration rate (over 3 times the global average). AI Market in India is likely to reach US\$ 7.8 billion by 2025 at the rate of 20.2% compound annual growth.

To match India's curriculum to make the students ready for the AI economy, National Education Policy 2020 lays a big emphasis on the need to impart the necessary technical knowledge and the integration of AI in Education.

Challenges with AI in education in India

(a) Lack of policies for AI in education; (b) Lack of resources and infrastructure affect expansion of AI in Education; (c) Increasing use of AI for cheating; (d) Focus on memorization-based education (instead of critical thinking).

Recommendations

(a) Consider ethics of AI in Education as an utmost priority; (b) Rapidly provide an overall regulatory framework for AI in Education; (c) Create effective public-private partnerships; (d) Ensure access to latest technology to all students and teachers; (e) Attempt to correct algorithmic biases and discrimination; (f) Improve public trust in AI; (g) Request private sector to better involve students and educationists in developing AI products.

8. Status of Naxal Violence

News: Director General of CRPF recently said that Bihar was free of Left-wing extremism.

Status of Maoist violence in India

Number of districts affected by Maoist violence stood at 39 down from 60 in 2010. The number of most affected districts accounting for 90% of the violent incidents had reduced from 35 in 2015 to 25 in 2021. These districts are mostly in Chhattisgarh, Jharkhand, Odisha, Maharashtra, Telangana and Andhra Pradesh.

There has been a 39% reduction in Left Wing Extremism (LWE) violence in India between 2018 and 2022. The number of Indian districts reporting Maoist violence decreased by 24% in 2022.

There has also been a 26% reduction in deaths of security personnel and 44% drop in civilian casualties due to Naxal violence in the period between 2018 to 2022.

Operations Launched

CRPF launched Operation Octopus, Operation Double Bull, Operation Thunderstorm and Operation Chakrabandha in the three States. The operations led to the arrest or surrender of 592 Maoists.

Economy

1. 4th Round of Quarterly Employment Survey (QES): Marginal Increase in Employment

News: The Government has released the results of the 4th round of the Quarterly Employment Survey (QES).

About the All-India Quarterly Establishment Based Employment Survey (AQEES)

It is released by the Labour Bureau, Ministry of Labour and Employment. Its purpose is to provide frequent (quarterly) updates about the employment, in both organised and unorganised segments of 9 sectors. These sectors altogether account for a majority of the total employment in the non-farm establishments. These include Manufacturing, Construction, Trade, Transport, Education, Health, Accommodation and Restaurant, IT/ BPO and Financial Services.

There are two components under AQEES, **Quarterly Employment Survey (QES)** (compiles relevant data from about 12,000 establishments) and **Area Frame Establishment Survey (AFES)** (covers the unorganised segment (with less than 10 workers) through a sample survey).

Key Highlights from the 4th round of QES

Employment is showing an increasing trend in the selected sectors of the economy. The estimated employment increased from 3.14 crore in the third quarter to 3.18 crore in the 4th Quarter.

Largest Employing sector: Manufacturing continues to be the largest institutional employer in the country, employing about 38.5% of the workers. It was followed by the education sector with 21.7%.

Women: The participation of women workers witnessed a marginal increase from 31.6% in the third quarter to 31.8% in the fourth quarter report. **Women workers constituted about 52% of the workforce in the health sector.** In financial services, women far outnumber males among self-employed persons.

Categories of workers: Around 86.4% of the workers were regular employees, and 8.7% were contractual employees followed by casual employees (2.3%) and self-employed (2%). The share of fixed-term employees in the establishments was found to be the least (0.7%) overall.

2. PLI Scheme for Solar Cell Manufacturing

News: The Union Cabinet has approved the implementation of the Production Linked Incentive Scheme on National Programme on High Efficiency Solar PV Modules.

About the National programme on High Efficiency Solar PV Modules

The Ministry of New & Renewable Energy is the nodal ministry. The aim of the programme is to build an ecosystem for manufacturing of high efficiency solar PV modules in India and thus reduce import dependence in the area of Renewable Energy.

Under the scheme, Solar PV manufacturers will be selected through a transparent selection process. The PLI will be disbursed for five years post commissioning of solar PV manufacturing plants on sales of high efficiency solar PV modules from the domestic market will be incentivised.

Expected Benefits of the scheme

(a) It is estimated that about 65,000 MW per annum manufacturing capacity of solar PV modules would be installed; (b) Generate employment and direct investment; (c) Import substitution of approximately INR 1.37 lakh crore; (d) Provide impetus to R&D to achieve higher efficiencies in Solar PV Modules.

3. Fund of Funds for Start-ups

News: The Fund of Funds for Start-ups has committed INR 7,385 crore to 88 Alternative Investment Funds (AIFs). These AIFs in turn have invested INR 11,206 crore in 720 Start-ups.

About the Fund of Funds for Start-ups (FFS)

It was launched in 2016 under **Start-up India Initiative**. The Ministry of Commerce and Industry (Department for Promotion of Industry and Internal Trade (DPIIT)), is the Nodal Ministry. Its aim is to increase capital availability as well as to catalyse private investments and thereby accelerate the growth of the Indian start-up ecosystem.

The fund was announced with a corpus of INR 10,000 crores.

Features

FFS does not invest in start-ups directly but **provides capital to SEBI registered Alternate Investment Funds (AIFs)** known as **daughter funds** which in turn invest money in high-potential Indian start-ups.

SIDBI has been given the mandate of managing the FFS through the selection of daughter funds and overseeing the disbursal of committed capital.

FFS has not only made capital available for start-ups at the early stage, seed stage and growth stage but also played a catalytic role in facilitating the raising of domestic capital, reducing dependence on foreign capital and encouraging homegrown and new venture capital funds.

4. Telecom Technology Development Fund (TTDF)

News: Universal Service Obligation Fund (USOF) has launched the Telecom Technology Development Fund (TTDF) Scheme.

Launching of Telecom Technology Development Fund (TTDF) Scheme

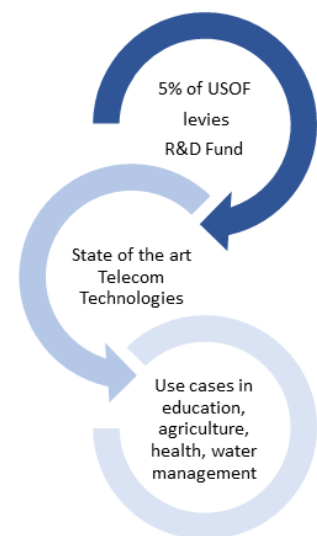
USOF is the pool of funds generated by the 5% Universal Service Levy that is charged upon all telecom operators on their Adjusted Gross Revenue.

The **draft Telecom Bill** has said that the USOF shall be referred to as the **'Telecommunication Development Fund'**. The USOF has largely been used to aid rural connectivity. But the objective of TDF is also to boost connectivity in underserved urban areas, R&D, skill development etc.

Salient Features of TTDF

Its aim is to: (a) Fund **R&D in rural-specific communication technology applications** and form synergies among academia, start-ups, research institutes, and the industry to build and develop the telecom ecosystem; (b) Promote technology ownership and **indigenous manufacturing**, reduce imports, boost export opportunities and **creation of Intellectual Property**; (c) Develop standards to meet countrywide requirements and create the ecosystem for research, design, prototyping etc.

The scheme entails grants to Indian entities to encourage and induct indigenous technologies tailor-made to meet domestic needs.



5. Tokenization

News: RBI's Card-on-File (CoF) Tokenization norms have become operational from October 1, 2022.

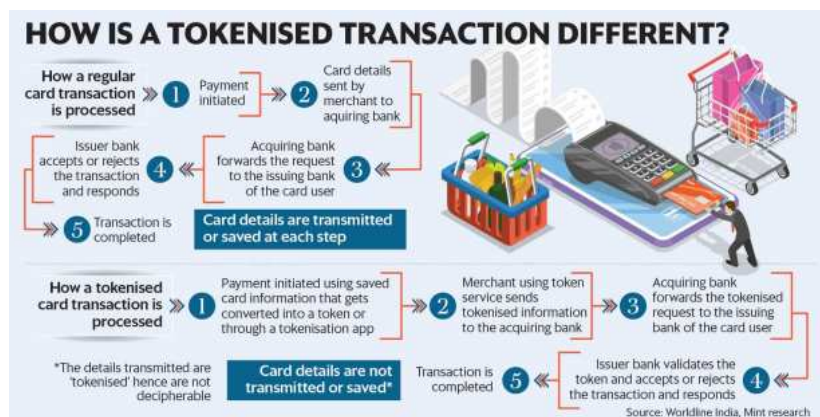
About Tokenisation

Tokenization refers to the replacement of actual card (credit/debit) details with an alternate code called the 'token'. The token will be unique for a combination of card, token requestor (the entity which accepts the request from the customer for tokenization of a card and passes it on to the card network to issue a corresponding token) and device. From now on any purchases done online or through mobile apps, merchants, payment aggregators and payment gateways **will not be able to save crucial customer card details such as 3-digit CVV and expiry date**.

According to the RBI data, till the end of July 2022, there were 92.8 crore debit and 8 crore credit cards.

Benefits of Tokenisation

Tokenised card transactions are considered safer as the actual card details are not shared with the merchant during the transaction. In case of any data breach the customer's card details will be protected. The token requestor cannot store Primary Account Number (PAN), or any other card details.



Card networks are also mandated to get the token requestor certified for safety and security that conform to international best practices/globally accepted standards.

6. 'Impossible Trinity': Monetary Policy Trilemma

News: The change in US Monetary Policy to curb inflation has brought the Impossible Trinity into focus.

About the Impossible Trinity or the Trilemma

The idea was proposed independently by Canadian economist Robert Mundell and British economist Marcus Fleming in the early 1960s.

It refers to the idea that an economy cannot simultaneously pursue: **(a)** Independent monetary policy (i.e., set any interest rate); **(b)** Maintain a fixed exchange rate; **(c)** Allow the free flow of capital across its borders at the same time.

According to economists, any economy can choose to pursue only two out of the three policy options simultaneously in the long-run.

Impossible Trinity in the Present World

In today's world, capital is largely free to move across borders with ease. So, the choice before policymakers is between **maintaining a fixed exchange rate** and **pursuing an independent monetary policy**. So, the government may follow any of the two conditions below.

Condition 1: If policymakers choose to peg or maintain the value of their currency at a certain level against a foreign currency, this decision will limit the monetary policy (or interest rate) they adopt in the long-run. The

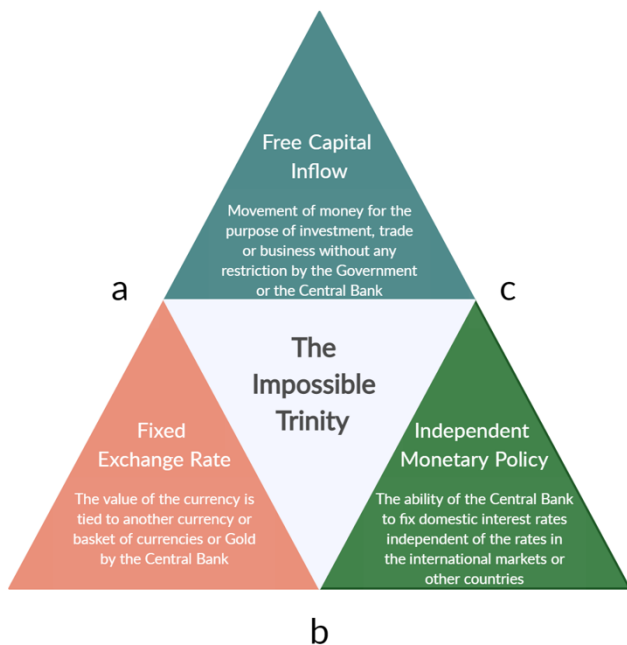
decision to peg the exchange value of the currency can tie down the hands of central bankers when it comes to their domestic monetary policy stance.

Condition 2: If policymakers of a country choose to pursue independent monetary policy, they may not be able to maintain the foreign exchange value of their currency at the desired peg. This is because the kind of monetary policy adopted by an economy's central bank invariably influences the exchange value of its currency against foreign currencies.

In the past, when strict capital controls were used to regulate the flow of capital across borders, economies could choose to pursue independent monetary policy and still hope to maintain a certain exchange value against foreign currencies.

The impossible trinity or the trilemma on RBI

The Reserve Bank of India may also face the dilemma of choosing between maintaining the value of the rupee and holding on to its monetary policy independence. For example, the present Fed rate hike has been increasing pressure on the rupee. The Rupee has depreciated almost 10% against the U.S. dollar this year.



7. 'Poverty and Shared Prosperity': World Bank Report

News: The World Bank has released a report titled 'Poverty and Shared Prosperity'.

Key Global Findings of the Report

Poverty

By 2015, the global extreme-poverty rate had been cut by more than 50%. Global poverty reduction has been slowing down since 2015. Covid pandemic and the war in Ukraine have completely reversed the outcomes. The world is **unlikely to meet the goal of ending extreme poverty by 2030**.

In 2020, the number of people living below the extreme poverty line rose by over 70 million.

The poorest people bore the steepest costs of the pandemic. Income losses averaged 4% for the poorest 40%. Global inequality rose for the first time in decades.

Global median income declined by 4% in 2020. This is the first decline since measurements of median income began in 1990.

Key Findings of the Report related to India

Poverty has gone up in India: Previous estimates suggested a poverty headcount rate (US\$ 1.90 poverty line) at 10.4% in 2017. But the recent report suggests that poverty (US\$ 1.90 poverty line) was 13.6% in 2017. The report mentions the lack of recent survey data significantly affects the measurement of global poverty. The report uses data from the Centre for Monitoring Indian Economy (CMIE), because there are no official estimates of poverty available since 2011. The government has not released the 2017-18 National Sample Survey (NSS) round because of concerns about data quality.

Suggestions of the Report

The fiscal policy offers opportunities for policymakers in developing economies to step up the fight against poverty and inequality. The World Bank has three specific suggestions when it comes to fiscal policy: **(a)** Choosing targeted cash transfers instead of broad subsidies; **(b)** Prioritising public spending for long-term growth; **(c)** Mobilizing tax revenues without hurting the poor.

8. Plant-based Meat Products

News: The Agriculture and Processed Food Products Export Authority (APEDA) has facilitated the export of plant-based meat products under the Vegan Food category to the US.

About Plant Based Meat Products

It is meat derived from plants. It is manufactured to taste, look, and feel like traditional meat from animal products. Plant-based meat is healthier than regular meat as it is lower in calories and saturated fats.

Significance of the Plant-based meat industry

According to Forbes, India is the largest producer of pulses in the world, accounting for 25% of the total output; however, more than 70% of the people in India are protein deficient. Deficiency can be caused by a **lack of awareness** and **less consumption** of a sufficient amount of protein on a regular basis.

Plant-based protein sources can play a vital role in treating deficiency as they not only offer varieties but are also pocket-friendly.

Difference between Plant-based and Cultured Meat

Plant-based meats are made of **plant-derived ingredients** but are designed to look and taste like real meat. **Cultured meat** is a fairly new concept that refers to **meat grown in a lab** from a small sample of cells taken from an animal. The procedure requires the extraction of stem cells from a donor animal, which then proliferate to produce animal tissue structures.

International Relations

1. Pipelines Between India and Nepal

News: India is considering setting up more pipelines for transporting refined petroleum products to Nepal.

Dependence of Nepal on India for petroleum products

Nepal is significantly dependent on India for petroleum products. In FY2021-22, Nepal imported petroleum products worth ~Nepali rupee 300 billion which was ~90% more than the imported amount of fossil fuels during the previous financial year.

Current petroleum pipeline between India and Nepal

A 69-km-long petroleum pipeline between **Motihari in Bihar** and **Amlekhgunj in Nepal's Bara district** constructed with India's assistance is already in operation.

It was inaugurated in 2019 and is being used for supplying diesel from Indian Oil Corporation (IOC) to Nepal Oil Corporation.

Future petroleum pipelines between India and Nepal

Nepal has sought India's technical support and grant assistance to construct two more petroleum pipeline projects under a Government-to-Government agreement.

One is for the construction of a 52 km pipeline from **Siliguri in West Bengal** to **Jhapa in Nepal** and another 69 km pipeline connecting **Amlekhgunj to Lothar in Chitawan district** both within Nepal as an **extension of the Motihari-Amlekhgunj pipeline**.

Once completed, these pipelines will supply fuel for aircraft and other petroleum products to Nepal, substantially reducing fuel transport costs.



2. 'China Remains a Formidable Challenge': Indian Naval Chief

News: The Chief of Naval Staff while addressing a seminar on security challenges has labelled China as a formidable challenge.

Key Highlights from the Naval Chief's Address

China's presence in the Indian Ocean Region (IOR): China began its Indian Ocean maritime deployment in the Indian Ocean Region(IOR) in 2008 using **anti-piracy operations** as the reason and since then there has been a continuous presence in the region.

At any point there are ~5-8 Chinese Navy units (warships or research vessels) operating in the IOR. China now has a base in Djibouti and has been involved in the development of various ports in the IOR, Sri Lanka, Myanmar, Pakistan and so many other countries.

Hence, India has to maintain a high level of operational preparedness at all times. It also increases the importance of infrastructure development along the northern borders.

Indian Navy's lead in indigenisation efforts: Around 29 ships commissioned in the past 7 years were constructed in India, and 38 out of 40 ships presently under construction were also being built at Indian shipyards. The aim of the Navy is to be fully *Atmanirbhar* by 2047.

Lessons from the Ukraine War: It is easy to start a war, but a major challenge is to terminate it. There are also lessons in the use of media and social media to weaponize the cognitive domain.

3. Grey Zone Capabilities

News: The Chief of Indian Army emphasized the need for India to develop Grey Zone Capabilities.

Grey-zone Capabilities

The grey zone describes a set of activities that occur between war and peace situations. Generally, grey-zone activities are considered **gradualist campaigns** by State and Non-state actors that combine **non-military and quasi-military tools**.

These actions are different from an armed conflict. They are often tailored toward the **vulnerabilities of the target state**. For instance, nefarious economic activities, **influence operations**, **cyberattacks**, mercenary operations, **assassinations**, **disinformation campaigns**, etc.

China and Grey-zone Capabilities

China over the last decade has emerged as a fine practitioner of grey-zone warfare. They have an excellent fusion between their civilian and military naval assets. For instance, **(a)** The so-called Chinese scientific vessel, Yuan Wang 5 was docked at Sri Lanka's Hambantota port. In reality, it was a spy ship capable of tracking intercontinental missiles; **(b)** Chinese deploying civilian trawlers and a maritime militia to assert their maritime claims in the South China Sea; **(c)** China's so-called Nine Dash Line cartographical innovation that laid claim to almost all of the South China Sea region; **(d)** They encroach upon traditional fishing grounds and exclusive economic zones (EEZs) of neighbouring states e.g., 220 Chinese fishing vessels had intruded into the Whitsun Reef area, which is part of the Philippines' EEZ.

Chinese civilian-military maritime forces mean formidable strategic and tactical worries for India.

Steps for India

India must: **(a)** Upgrade its coastal defence and sharpen its naval fleet; **(b)** Along with INS Vikrant, India needs many more high-tech naval vessels and listening posts to counter the China threat.

4. Nobel Peace Prize 2022

News: The Nobel Peace Prize 2022 has been jointly awarded to a Belarusian Human Rights Advocate, Russian human rights organization Memorial, and Ukrainian human rights organization Center for Civil Liberties.

Contributions of Nobel Peace Prize 2022 Winners

Ales Bialiatski: He is the founder of **Viasna**, a human rights centre in Belarus. He has been protesting against autocratic rule of President Alexander Lukashenko, who took over the country in 1994. Bialiatski has been arrested many times, but he has not yielded and has been working for protection of human rights and democracy in Belarus. He is under detention at present. He was also awarded the Right Livelihood Award, nicknamed the alternative Nobel Prize, in 2020.

Memorial: It is a **Russian human rights organisation** started in 1987 in the erstwhile USSR. The organisation was started as a movement to expose repression under the regime. Eventually, it expanded into civil society groups that ran a museum, a library, an archive, and support centres to help Soviet-era repression victims and their family members. At present, Memorial is working on the compilation of information on political repression and human rights violations in Russia.

Centre for Civil Liberties: It is a **Ukrainian human rights organisation** for Civil Liberties, founded in Kyiv in 2007. It aims to transform the country into a full democracy. In 2014, when Russia invaded Ukraine and annexed Crimea, the Centre for Civil Liberties participated in mobile monitoring groups in Crimea as well as Donbas. The organisation is presently focused on identifying and documenting Russian war crimes following the invasion of Ukraine in February 2022.

5. Colour Revolutions

News: The President of China has appealed to India, Russia, and other members of the SCO to cooperate to prevent foreign powers from destabilizing their countries by inciting 'colour revolutions'.

About Colour Revolutions

Colour revolutions refer to a series of uprisings that first began in former communist nations in Eastern Europe in the early 2000s but are also used in reference to popular movements in the Middle East and Asia. Most have involved large-scale mobilization on the streets, with demands for free elections or **regime change**, and calls for the removal of authoritarian leaders.

Some Colour Revolutions in the recent past

Orange Revolution: It refers to a series of protests that occurred in **Ukraine** between 2004 and 2005. The movement was in response to reports from international and domestic observers that the Presidential election was rigged.

Tulip Revolution: It is also called the First **Kyrgyz Revolution**, the movement led to the ouster of Kyrgyzstan's President Askar Akayev in early 2005.

Jasmine Revolution: The popular uprising that occurred between 2010 to 2011 in **Tunisia** was in response to the underlying corruption, unemployment, inflation and lack of political freedoms in the country.

Science and Technology

1. Double Asteroid Redirection Test (DART): NASA's Spacecraft-Asteroid Collision

News: NASA's DART Mission collided with Didymos Asteroid. It is the NASA's demonstration project of Kinetic Impactor Technology, to prevent the asteroids from hitting the earth.

About Asteroids

Asteroids are small, rocky objects that orbit the Sun. Although asteroids orbit the Sun like planets, they are much smaller than planets. There are lots of asteroids in our solar system. Most of them are located in the main asteroid belt – a region between the **orbits of Mars and Jupiter**.

About DART Spacecraft

DART stands for **Double Asteroid Redirection Test**. It is the first-ever mission dedicated to investigating and demonstrating one method of **asteroid deflection** by changing an asteroid's motion in space through kinetic impact.

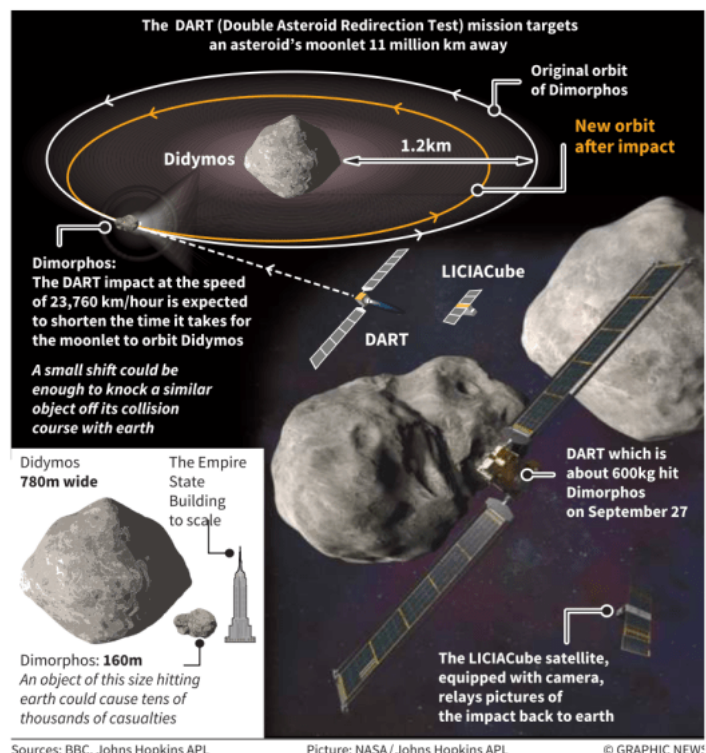
DART's target is the binary asteroid system **Didymos**, which means 'twin' in Greek (and explains the word 'double' in the mission's name). It is 11 million kms from earth. Didymos is not on a path to collide with Earth and therefore poses no actual threat to the planet. DART is a spacecraft designed to impact an asteroid as a **test of the technology**. NASA is estimated to have invested US\$ 320 million in

Undertaking of the Mission

NASA undertook the **'kick' technique**. Compared to the massive Dimorphos, DART is very small. Yet crashing at a high speed of 23,760 kilometres per hour, the momentum is adequate to slash the angular momentum of Dimorphos, making it speed up and move closer to Didymos. All of these reduce the orbital period and the time taken for the moonlet to go around the primary asteroid. The pair's trajectory is thus deflected as the net result of these dynamics.

Ready, set, crash!

NASA's DART spacecraft collided with the space rock Dimorphos (which orbits around Didymos, the primary asteroid) and has therefore, deflected the trajectory of the pair of space rocks



Sources: BBC, Johns Hopkins APL

Picture: NASA/ Johns Hopkins APL

© GRAPHIC NEWS

Consider it like this: a fast-moving moped slamming into a truck is sure to undergo a massive crash and burn, yet will veer the massive truck a bit. This is the essence of the 'kick' technique. A similar collision with another asteroid may alter its course and prevent it from collision course.

Significance

It tests proof of concept for a planetary defence system, which could prevent a large asteroid from smashing into the Earth. Since DART appears to have worked, scientists can now conceive a similar mission possibly involving a large nuclear warhead if there's a future emergency.

2. Government pushing for NavIC System in Smartphones

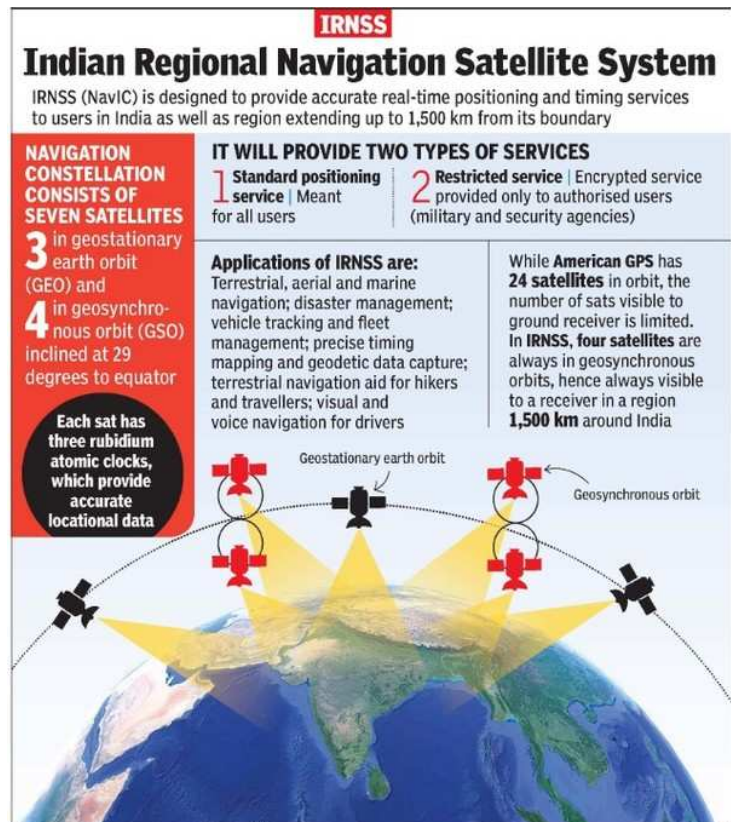
News: The Government is pushing the tech giants to make their smartphones compatible with NavIC.

About NavIC

NavIC, or Navigation with Indian Constellation is an independent stand-alone **navigation satellite system developed by ISRO**. It became operational in 2018. NavIC consists of 7 satellites and covers the whole of India's landmass and up to 1,500 km from its boundaries.

Significance of NavIC for India

(a) It gives real time information for standard positioning service open for civilian use and restricted service for authorised users like for military; (b) It has made Indian Armed Forces self-reliant; (c) The services will be provided to the neighbouring nations enhancing goodwill; (d) It is important for the country's sovereignty and strategic requirements; (e) Relying on systems like GPS and GLONASS may not always be reliable as those are operated by the defence agencies of respective nations and it is possible that civilian services can be degraded or denied.



Comparison with GPS Navigation System

Coverage: GPS caters to users across the globe and its satellites circle the earth twice a day, while NavIC covers India and some neighbouring countries.

Satellites: NavIC has a total of 7 satellites in Earth's orbit whereas GPS has a total of 31 operational satellites rotating around the Earth.

Frequency: NavIC uses L5 frequency for Standard Positioning Service (SPS) and S-band frequency for military use. GPS uses L1 and L5 frequencies for both general and military use.

Accuracy: The reason for NavIC's pinpoint accuracy is the direct line of sight between the satellite and India's region- all the time. Since NavIC satellites are much above the Earth's surface (approx 35,000 km above), signals can't be blocked by mountains. GPS satellites are operating at medium orbit so there are chances of signal blocking by mountains. NavIC has a position accuracy of 5-20 meters for general users and 0.5 meters for military use. GPS has a similar position accuracy of less than 20 meters.

Use of NavIC

At present, NavIC's use is limited. It is being used in public vehicle tracking in India, for providing emergency warning alerts to fishermen venturing into the deep sea where there is no terrestrial network connectivity, and for tracking and providing information related to natural disasters.

3. 'Proof-of-Work' to 'Proof of Stake' in Blockchain

News: Ethereum blockchain platform has fully transitioned from 'proof-of-work' to 'proof-of-stake' consensus mechanism and this revamp is known as the Merge.

Proof-of-Work

Ethereum is a decentralized cryptocurrency. Till now the transactions were validated under the Proof-of-Work (PoW) consensus mechanism which was essentially done by cryptocurrency 'miners.' Under it, the miners would compete to **solve complex mathematical puzzles** using a massive infrastructure of **cutting-edge computer hardware**, and the first one to solve the puzzle would be chosen as the validator.

This method was almost entirely dependent on **crypto farms** which are massive warehouses lined with rows of computers which would solve the puzzles.

Proof-of-Stake

These mining farms consumed a large amount of energy. For instance, the crypto's total annualized power consumption nearly matches that of Finland, while its carbon footprint is comparable to Switzerland. Hence it was a big concern for environment sustainability.

Ethereum has now shifted to a **'proof-of-stake' (PoS) mechanism** that assigns 'validators' randomly to approve transactions and earn a small reward. It would entirely **eliminate the need for miners** on the Ethereum network. It will **reduce Ethereum's energy consumption by nearly 99.95%**. It will make transactions on the Ethereum network extremely secure.

4. e-SIM

News: Apple has launched new phones enabled with e-SIM

About eSIM

eSIMs were first introduced in 2012. It is an **embedded SIM**. It has the same hardware of a regular SIM card chip but now it is **permanently embedded in the motherboard** of a watch or smartphone.

They also function the same way, acting as a **unique identifier** for making calls or sending messages. Being attached to the motherboard also **allows re-programming**, letting users switch operators without having to replace any physical SIM cards.

Advantages of eSIM

Provides Security: An eSIM provides security to sim theft, as there is no physical element to pull out and use in another device. Attackers cannot use stolen phone, thus protects confidential personal and financial information.

Saves space in the phone: Embedded SIM saves physical space. The extra space can be utilized to provide extra features.

One less opening on the frame of your phone reduces the likelihood of elements like dust and water entering the phone. It also saves some space on the inside of the phone to be used elsewhere.

Disadvantages

Emergencies: If a phone stops working, runs out of battery or becomes dysfunctional, then the communication with the person is brought to a complete standstill with eSIMs. Traditional SIMs can be quickly pulled out of the affected phone and into another backup device or secondary phone.

Unusable in countries with no eSIM support: eSIM phones cannot be used in a country where the telecom operators simply don't support the technology yet.

Telcos have more control: An eSIM may save one's initial trip to the telecom operator's store to get a SIM card, but one has to rely on the operator while switching one's phone.



5. Genetically Engineered Mosquitoes to tackle Malaria

News: Scientists have genetically modified mosquitoes to slow the growth of malaria-causing parasites in their guts. This can help prevent transmission of the disease to humans.

About Malaria

Malaria remains one of the most devastating diseases globally. In 2021, it infected 241 million people and killed 627,000 people. It is caused by the bite of the **female Anopheles mosquito** (vector) if the mosquito itself is infected with a malarial parasite.

There are **five kinds of malarial parasites** — Plasmodium falciparum, Plasmodium vivax (the commonest one), Plasmodium malariae, Plasmodium ovale, and Plasmodium knowlesi.

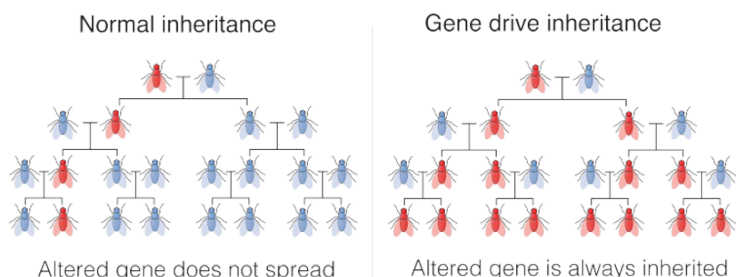
Genetically Modified Mosquitoes

The Malaria parasites develop into their next stage in the mosquito's gut and travel to its salivary glands, ready to infect the next person it bites. Scientists have bioengineered the mosquitoes to produce compounds (antimicrobial peptides) that **slow the growth of malaria-causing parasites** and cause the mosquitoes to have a shorter life span. The innovation is so designed that it can be coupled with existing 'gene drive' technology.



Potential Impacts

The impact of genetically modified mosquitoes is found to be effective in labs. They dramatically reduce the possibility of malaria spreading in a lab setting, if proven in the real world it could offer a powerful new tool to help eliminate malaria.



About Gene Drive Technology

A gene drive is a natural process and technology of genetic engineering that propagates a particular type of genes throughout a population. Gene drive in combination with drugs, vaccines and mosquito control can help stop the spread of malaria and save human lives.

Gene drive would cause the anti-parasite genetic modification to be preferentially inherited, making it spread more widely among any natural population of mosquitoes.

6. Flex-Fuel Vehicles

News: The Union Minister for Road Transport and Highways has launched Toyota's pilot project Flex-Fuel Strong Hybrid Electric Vehicles in India. They can run on blended ethanol fuel as well.

About Flex-fuel vehicles

Like traditional vehicles, flex fuel vehicles have an internal combustion engine, but instead of regular petrol, they can run on blended fuel—petrol with ethanol or methanol. The **ethanol mix can vary between 20% and 85%**. The vehicle has additional sensors and different programming of the engine control module to assess the blend of the fuel and adjust accordingly.

Advantages of Flex-fuel Vehicles

Upgrading existing vehicles to run on high blend of ethanol fuel is expensive and not considered feasible. Flex-fuel vehicles address multiple issues like lower pollution and lower import of oil. They also have lower cost of running, thus offer better economy for consumers.

Challenges in Flex-fuel vehicles

Significant investment: For mass adoption, adequate supply of different types of ethanol blends is needed across the country, with 10% blend (for existing vehicles) to 85% blend for Flex vehicles. This means significant investment in infra by oil firms.

Impact of Sugarcane crop: Constant supply of ethanol largely depends on sugarcane in India, which is a **water-guzzling crop**. Damage to crop due to climatic factors could have an impact on blending rates.

7. Carbon Dots

News: According to scientists, modern technology like carbon dots (CD) might be the solution to environmental issues like water pollution.

About Carbon Dots (CDs)

CDs are one of the youngest members of the carbon nanomaterial family. They have an average diameter of less than 10 nanometres. The dots show continuous and broad absorption spectra, intense fluorescent activity, excellent photostability and highly tuneable photoluminescence.

Formation of Carbon Dots

'Top-down' method: This approach converts large carbon structures into quantum-sized carbon dots by laser ablation, arc discharge, and chemical or electrochemical oxidation.

'Bottom-up' method: CDs are produced from carbonising small molecule precursors by pyrolysis, carbonisation, hydrothermal processes or microwave-assisted synthesis.

CDs have also been produced from water hyacinth waste.

Advantages of Carbon Dots

(a) CDs have garnered the attention of researchers mainly due to their convenient availability from both organic and inorganic materials; (b) CDs have the potential to be used instead of quantum dots, which are more toxic and less biocompatible; (c) CDs possess remarkable optical properties, which differ peculiarly based on the precursor used for synthesis; (d) CDs are inexpensive, highly biocompatible, and environment-friendly.

Potential Applications of Carbon Dots

Pollutant Sensing: CDs are electron donors and acceptors. So they are becoming more popular as candidates in applications like **sensing** and **bioimaging**. They are widely used as a fluorescent nanoprobe for pollutant detection because of their high fluorescence emission. They also enable the detection of pollutants by changing colour.

Contaminant Adsorption: CDs can

provide many surface adsorption sites due to their small size and large specific surface area.

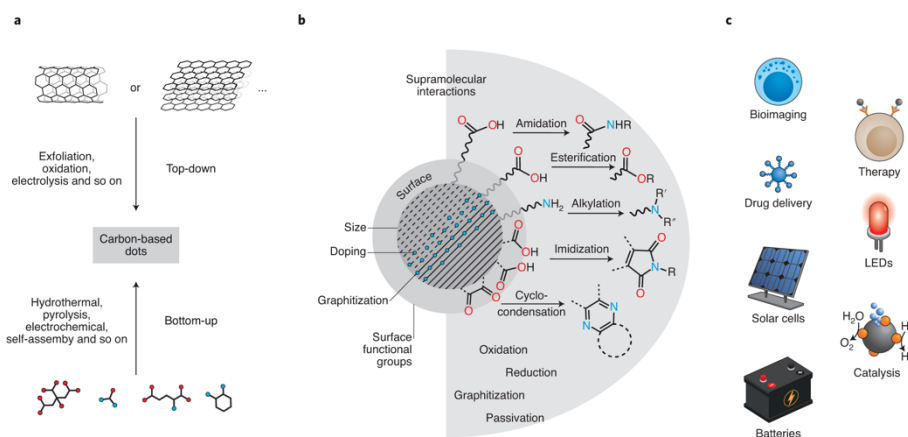
Water Treatment: CDs contribute rich oxygen-containing moiety on their surface and are favourable for water solubility. Further, they are also promising nano-fillers in fabricating thin-film nanocomposite membranes. So, CDs can be used for water treatment.

For instance, CDs obtained from grass carp successfully detected mercury ions in lake water

Pollutant Degradation: The technology can also be useful for pollutant degradation by providing a cutting-edge approach for next-generation photocatalysis.

For instance, thio-urea and citric acid-based carbon dots were used for the degradation of harmful dyes.

Antimicrobial benefits: CDs in contact with the bacteria cell under visible or natural light could efficiently generate reactive oxygen species. This can damage Deoxyribonucleic Acid (DNA) or Ribonucleic Acid (RNA), causing bacteria death.



Environment

1. Shallow Water Mining

News: A group of researchers has suggested that Shallow Water Mining is in direct conflict with Biodiversity Conservation and Sustainability Goals as the activity poses severe environment risks.

About Shallow Water Mining

Mining metals such as gold, cobalt and copper from depths of 200 metres below the sea is known as 'shallow-water mining'. It is **considered a relatively low-risk and low-cost option** to satisfy the demand for metals and minerals. Shallow-water mining projects are already underway in Namibia and Indonesia, and projects have been proposed in Mexico, New Zealand, and Sweden.

Harmful Impact

Shallow Water Mining is not a sustainable substitute for Deep-Sea Mining. Mining metals from the shallow-water ocean floor **requires removing large amounts of sediment**. These sediments take thousands of years to accumulate. Removing these sediments means jeopardizing organisms that call it home.

This could **trigger local extinctions** and **changes in species composition**.

Other issues could be the **impact on water quality** and **release of harmful substances** from the sediment and disturbance from noise and light.

2. Global Registry of Fossil Fuels

News: The World's first Global Registry of Fossil Fuels has been launched.

About the Global Registry of Fossil Fuels

It has been launched by the Carbon Tracker and the Global Energy Monitor. It is the first-of-its-kind database for **tracking the world's fossil fuel production, reserves and emissions**. It includes data from over 50,000 oil, gas and coal fields in 89 countries. That covers 75% of global reserves, production and emissions. This registry is available for public use.

Key Analysis

(a) The US and Russia have enough fossil fuel still underground untapped to **exhaust the world's remaining carbon budget**. These reserves would generate 3.5 trillion tonnes of greenhouse gas emissions which is more than all of the emissions produced since the Industrial Revolution.

(b) Of the 50,000 fields included, the most potent source of emissions is the **Ghawar oil field in Saudi Arabia**, which churns out some 525 million tonnes of carbon emissions each year.

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 CO2)	AR 6 Budget (2020) (Gigatonnes CO2)
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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3. Roadmap for Legacy Waste Management

News: The Centre for Science and Environment (CSE) has released a roadmap for legacy waste management in a bid to support India's garbage-free cities agenda.

About Legacy Waste

The term 'legacy waste' has not been defined in any official government document in India. But it typically refers to wastes that are collected and kept for years at some barren land or a place dedicated to a Landfill (an area to dump solid waste).

Significance

The term 'legacy waste' has received close attention in the wake of Swachh Bharat Mission (SBM) 2.0 which mandates that **cities in India should clear legacy waste sites**, reclaim the land and prevent more waste from reaching dumpsites.

The operational guidelines of the Swachh Bharat Mission 2.0 had made it mandatory for cities with a population of less than a million to clear legacy waste sites by March 31, 2023. Cities with a population of more than a million are to remediate their dumpsites by March 31, 2024.

Roadmap of CSE on Legacy Waste

The CSE has prepared a 7-point roadmap which includes: **(a)** Developing a sustainable solid waste management plan; **(b)** Ensuring maximum utilization of recovered fractions; **(c)** Reusing the reclaimed land sustainably on the basis of a comprehensive policy and protocol; **(d)** Developing standards for gainful use of recovered fractions; **(e)** Incentivising management of recovered materials; **(f)** Building capacity of urban departments; **(g)** Ensuring sustainable operation of sanitary landfills.

4. New Targets under National Clean Air Programme

News: The Government of India has set a new target of 40% reduction in particulate matter concentration in cities covered under the National Clean Air Programme (NCAP) by 2026.

About the National Clean Air Programme (NCAP)

The National Clean Air Programme (NCAP) was launched by the Ministry of Environment Forest & Climate Change (MoEF&CC) in 2019. It is a long-term, time-bound, national-level strategy making determined efforts to deal with the air pollution problem across the country in a comprehensive manner.

NCAP is implemented in 132 cities in the country.

Funding: Under the programme, cities are required to quantify improvement starting 2020-21, which requires a 15% and more reduction in the annual average PM10 concentration and a concurrent increase in “good air” days to at least 200. Anything fewer will be considered ‘low’ and the funding consequently reduced.

Note: For disbursing funds, the Central Pollution Control Board (CPCB) only considers levels of PM10, the relatively larger, coarser particles. However, PM2.5, the smaller, more dangerous particles, aren’t monitored as robustly in all cities mostly due to the lack of equipment.

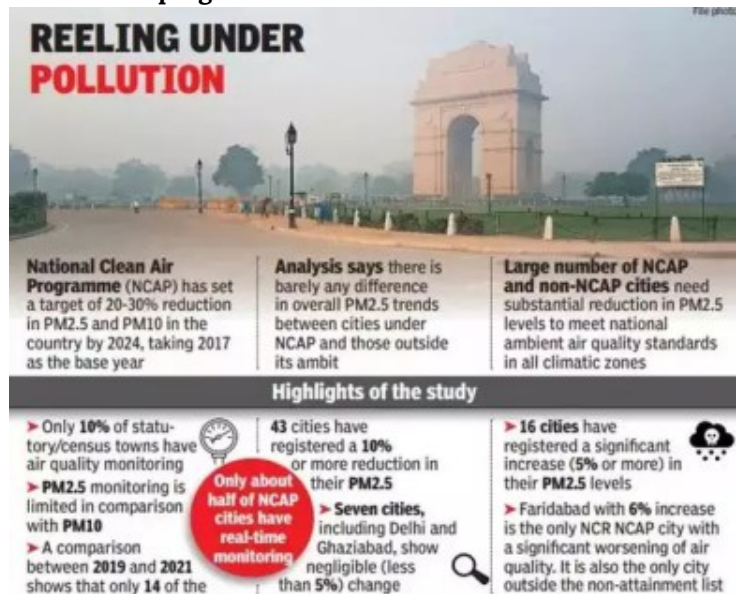
Analysis of Centre for Science and Environment on the NCAP programme

Performance of NCAP cities on PM2.5 levels

(2019-21): Only 43 NCAP cities have adequate PM 2.5 data for the period 2019-2021. Out of this, only 14 of 43 cities registered a 10% or more reduction in their PM2.5 levels.

On the other hand, out of 46 non-NCAP cities with adequate data, 21 recorded significant improvement in their annual PM2.5 value with 5% or more decline between 2019 and 2021.

Only about 50% of the NCAP cities have real-time monitoring: In 2019, only 51 out 132 NCAP cities had real-time monitoring stations. The number grew to 63 in 2021; 6 more NCAP cities have installed real-time monitors in 2022 so far, taking the number to 69.



Present and New Targets under NCAP

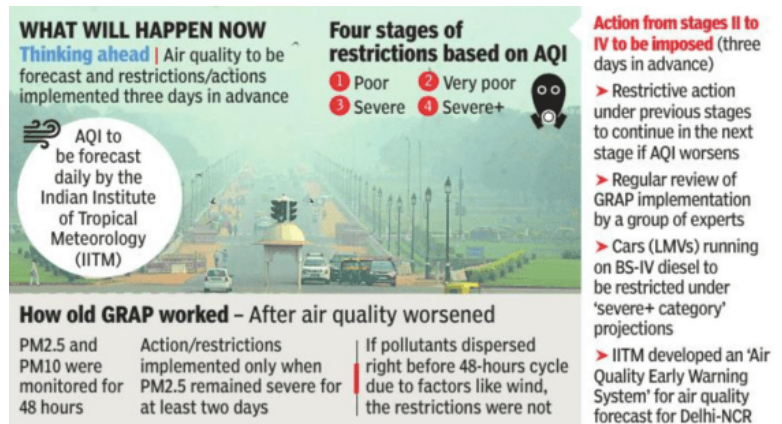
The present target is to achieve 20 to 30% reduction in Particulate Matter concentration by 2024. The government has set a new target of a 40% reduction by 2026.

5. Revised Graded Response Action Plan (GRAP) for Delhi-NCR.

News: The revised action plan to fight air pollution in Delhi and the National Capital Region has come into force with deterioration of air quality.

About the Graded Response Action Plan (GRAP)

It is a set of **stratified actions** that are taken once the **pollution level reaches a certain specified limit**. The action plan was notified in 2017 for Delhi and the National Capital Region (NCR). The Supreme Court had mandated the Environmental Pollution Control Authority (EPCA) to come up with such a plan. The plan requires action and coordination among 13 different agencies in Delhi, Uttar Pradesh, Haryana, and Rajasthan (NCR areas).



Revised GRAP

Under the revised GRAP, restrictions on polluting activities will be dependent on Air Quality Index (AQI) rather than PM2.5 and PM10 concentration.

The GRAP for Delhi-NCR is divided into four stages of air quality – **Stage I** for “poor” AQI ranging between 201 and 300, **Stage II** for “very poor” AQI of 301-400, **Stage III** for “severe” AQI of 401-450 and **Stage IV** for “severe plus” AQI more than 450.

Key restrictions under revised GRAP (Graded Response Action Plan)

Stage II > Ban on diesel generator sets, except for emergent and essential services > Ban on coal/ firewood, including tandoors in hotels/ restaurants open eateries	Stage III 'Severe' AQI category (401-450) Ban on C&D activities in NCR, essential projects (like Metro and defence) and non-dust generating activities, such as plumbing, interior decoration Regulate operations of industries in NCR not running on PNG/cleaner fuels to maximum five days per week Shutting down of brick kilns, hot mix plants, stone crushers not operating on clean fuels	Ban on mining and associated activities in NCR Delhi-NCR govts may restrict vehicles running on BS-III petrol and BS-IV diesel
Stage IV 'Severe+' AQI category (AQI >450) > Ban on plying of four-wheeler diesel light motor vehicles in Delhi and bordering districts, except BS-VI > Stop entry of truck traffic into Delhi	(except essential commodities) > CNG/electric trucks to be allowed > Ban on diesel-run medium and heavy goods vehicles in Delhi	> Ban on industries in NCR not running on cleaner fuel, except dairy & medical units > Ban on C&D activities like highways, roads, flyovers, overbridges, etc > Delhi- NCR govts may impose 50% work from home for public and private offices > Educational institutions may be shut

6. Climate Tipping Points

News: According to a study, the climate crisis has driven the world to the brink of multiple disastrous ‘tipping points’.

About Climate Tipping Points (CTPs)

These are markers of a larger climate system which when triggered beyond a threshold, **perpetuates warming on its own**.

IPCC definition: A level of change in system properties **beyond which a system reorganizes**, often abruptly, and does not return to the initial state even if the drivers of the change are abated. For the climate system, it refers to a critical threshold **when global or regional climate changes permanently** i.e., it denotes a situation when it is **too late to stop effects of climate change**.

One of the most talked-about tipping points involves the **collapse of the West Antarctic ice sheet**. West Antarctica alone holds enough ice to raise sea levels worldwide by about 11 feet (3.3 meters). If all glaciers and ice caps melt, sea levels will end up rising about 230 feet (70 meters).

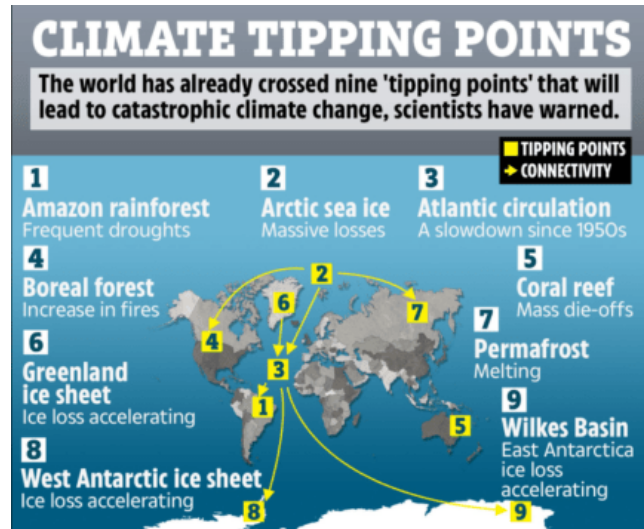
Key Findings of the Study on CTPs

According to the Study, 5 dangerous tipping points may already have been passed due to the 1.1°Celsius of global heating caused by humanity to date. 4 of these 5 become more likely as global warming exceeds 1.5°C. The collapse of the west Antarctic ice sheet was once thought to be a risk when warming reached 3°C-5°C above Earth's pre-industrial average temperature. Now it's thought to be possible at current warming levels.

The researchers found that every fraction of a degree makes tipping more likely, but the researchers are not sure exactly when tipping becomes inevitable. This is especially true for the Greenland and west Antarctic ice sheets.

Both tropical **coral reef death** and **abrupt permafrost thaw** are possible at the current warming level. But thresholds vary between reefs and patches of permafrost. For instance, both are already happening in some places.

Researchers also found that **Amazon tipping** might occur in several regions at varying warming levels rather than as one big event.



Suggestions to stop CTPs

Currently, the world is heading toward 2-3 °C of global warming. If all net-zero pledges and nationally determined contributions are implemented it could be limited to below 2 °C.

Ambitious emissions cuts in line with the Paris Agreement aims to halt warming at 1.5 °C. This would reduce the chances of triggering multiple climate tipping point.

7. Living Planet Report

News: The World Wildlife Fund (WWF) has released the Living Planet Report.

About the Living Planet Report

It is a **biennial report** produced by the **Zoological Society of London**. The report measures **how species are responding** to pressure in the environment due to **biodiversity loss** and **climate change**.

Key Findings of the Living Planet Report

Findings related to India

Vulnerable regions: The Himalayan region and the Western Ghats are some of the most vulnerable regions in the country in terms of biodiversity loss. Increased biodiversity loss is expected in these regions in future if temperatures continue to increase.

Decline in species: India has seen a decline in the population of honeybees and 17 species of freshwater turtles in this period.

Sundarbans: 137 km of the Sundarbans mangrove forest have been eroded since 1985, reducing land and ecosystem services for many of the 10 million people who lived there.

River ecosystem: Rivers in India are no longer free-flowing. This has threatened migration of fish.

Appreciated India's conservation efforts: India has seen successes such as [Project Tiger](#), or (projects for) the one-horned rhino and lions. Projects like the recent cheetah translocation are therefore good in the preservation of species.

Global

Wild life populations: Monitored wildlife populations (including mammals, birds, amphibians, reptiles and fish) have seen a **69% drop between 1970 and 2018**.

Latin America and the Caribbean regions have seen the largest decline of monitored wildlife populations globally, with an average decline of 94% between 1970 and 2018. In Africa and Asia-Pacific, it was 66% and 55% respectively.

Oceans: The global abundance of 18 of 31 oceanic sharks have declined by 71% over the last 50 years. By 2020 three-quarters of sharks and rays were threatened with extinction.

Most threatened species: Freshwater populations have declined the most, with an average 83% decline between 1970 and 2018.

Cycads: They are an ancient group of seed plants. They are the most threatened species, while corals are declining the fastest, followed by amphibians. The **Bramble Cay melomys**, a small Australian rodent, was declared extinct after sea-level rise.

Mangroves: Despite their importance, mangroves continue to be deforested by aquaculture, agriculture and coastal development at a rate of 0.13% annually.

Main drivers of wildlife population decline: (a) Habitat degradation and loss; (b) Exploitation; (c) Introduction of invasive species; (d) Pollution; (e) Climate change and disease; (f) Land-use change; (g) Rising temperatures. Agriculture is the most prevalent threat to amphibians. Hunting and trapping are most likely to threaten birds and mammals.

History, Art and Culture

1. 12,000 Years Old Artifacts Discovered near Chennai

News: Archaeological Survey of India (ASI) has discovered 12000-year-old artifacts at the Vadakkupattu village in Tamil Nadu.

About the ASI Discovery

The ASI discovered signs of 4 civilizations at the Vadakkupattu village in Tamil Nadu.

Mesolithic Period: ASI discovered hand axes, scrappers, cleavers, and choppers from the Mesolithic period. They were recovered 75 cm from beneath the surface.

Sangam Era: They discovered Sangam era (almost 2,000 years ago) artefacts including rouletted pottery, Roman amphora sherds, and glass beads suggesting active commerce with Rome.

Early and Later Pallavas: They discovered sculptures ranging from the early Pallava period (275 CE) to the late Pallavas on the floor inside the surrounding space (897 CE).

FOUR CIVILIZATIONS

Early and later Pallava period (from 1,200 years to 1,800 years ago) | Vishnu, Shivalinga sculptures

Sangam era (2,000 years ago) | Roman amphora sherds, glass beads, rouletted ware, gold ornaments, terracotta toys, beads, pieces of bangles, pot sherds and coins

Mesolithic period (12,000 years ago) | Stone tools including hand axes, scrappers, cleaver, choppers and stone fragments



2. New Archaeological Discoveries in Bandhavgarh Forest Reserve

News: Archaeological Survey of India (ASI) has discovered remarkable archaeological remains in Madhya Pradesh's Bandhavgarh Forest Reserve.

About the Discoveries by ASI

ASI has discovered **(a)** 26 caves that have features of the Mahayana sect of Buddhism like chaitya-shaped doors and cells containing stone beds; **(b)** 26 ancient temples/relics of Kalachuri period (9th century CE to 11th Century CE); **(c)** A large *Varaha* sculpture datable to the 9th – 13th century CE. It appears to be the world's largest sculpture. 24 Brahmi inscriptions (2nd century CE to 5th century CE); **(d)** Important kings of the era mentioned in the inscriptions include Shri Bhimsena, Maharaja Pothasiri and Bhattadeva.

One epigraph describes the cave as a *sarthika lata* or **cave for caravan people**. The creators also made tanks near the caves and one cave was described as a *vayamasala* or **gymnasium**.

Some experts have asserted that the caves are not Buddhist in origin as memorial stupas and carvings that have an overtly Buddhist character are missing.

About Bandhavgarh National Park

Bandhavgarh National Park is located in the **Umari district of Madhya Pradesh**. It was declared as a National Park in 1968 and then became a Tiger Reserve in 1993.

The park resides on the extreme North-eastern border of Madhya Pradesh and the northern edges of the Satpura mountain ranges. It also has a fort built by Gond Dynasty kings. One of the biggest attractions of this national park is the **Bengal tiger (*Panthera tigris tigris*)**. Bandhavgarh has a very high density of tigers within its jungles.

3. Features of Chola Kingdom

News: The Tamil Movie Ponniyin Selvan-1 has brought the Chola Kingdom into focus.

About the era of the Cholas

The Chola kingdom stretched across present-day Tamil Nadu, Kerala, and parts of Andhra Pradesh and Karnataka.

The dynasty was founded by the **King Vijayalaya**, described as a 'feudatory' of the Pallavas by historian Satish Chandra in the book 'The History of Medieval Era'.

The Chola **King Rajadhiraja** came to power in 1044, he was able to subdue Pandyan and Kerala kings, and presumably to celebrate these victories performed the **Ashvamedha** sacrifice.

The Chola rulers sacked and plundered Chalukyan cities including Kalyani. They destroyed Anuradhapura, the ancient capital of the rulers of Sri Lanka.

Society under the Cholas

Naval supremacy: Cholas had strong ties with merchant groups and this allowed them to undertake impressive naval expeditions. They had reached as far as Malaysia and the Sumatra islands of Indonesia in their conquests.

Chola inscriptions: Cholas cultural sophistication is reflected in the meticulous records kept by them in the form of inscriptions on the walls of temples, and on copper plates.

Infrastructure: The construction of grand trunk roads and public ferries during the time of Cholas are mentioned in books.

The practice of building grand temples: Temple building was ramped up by the Cholas. The **grand Brihadeeswara temple of Thanjavur**, built by the Cholas, was the largest building in India in that period.

Earlier, the Rashtrakutas had built the **Kailasanatha temple in Maharashtra's Aurangabad** – the largest monolith structure (carved from a single rock) of its time.

Arts and sculptures: Artworks and sculptures were commissioned by Chola kings and queens. The most famous of them is the bronze **Nataraja idols**.

Role of women: The role of women in the royal family is being brought to focus given their impact on public life, but that is not to suggest that ordinary women wielded equal power as men. There were instances where cities were named after women.

Sources of Information about the Chola Kingdom

Literary sources: There are lots of literary sources that provide information about the Cholas (a) Tamil Sangam literature such as **Pattinappalai** and **Puranaanooru** (was brought to print by U.V. Swaminatha Ayyar); (b) **Mahavamsa** (which tells the history of Sri Lanka); (c) Notes by Chinese and Arabian travellers to India; (d) Japanese historian **Noboru Karashimahas** has written insightful volumes on the Cholas' economic, social and administrative prowess;

Other sources: The monumental relics, majestic bronzes statues and 1,00,000 inscriptions, and temples also reveal details about the Cholas.

Literary works: **Kalingathu Parani** by Jayam Kondar, **Kamba Ramayanam** by Kambar, **Periya Puranam** by Sekkizhar were written during the reign of **Kulothunga I and II**.

Architectural achievements: The construction of the **Brihadeeshwara Temple** in Thanjavur was done by Raja Raja I. Similarly, **Gangai konda Chozhapuram** was built by Rajendra I, and the **Airavateswara Temple** at Dharasuram was done by Raja Raja III.

4. Encyclopedia of Sanskrit Dictionary Project

News: Deccan College Post-Graduate and Research Institute (Pune) hosted an Open Day for the public to witness its ongoing Encyclopedia of Sanskrit dictionary Project.

About the Project

Linguist and Sanskrit Professor SM Katre, founder of India's oldest Department of Modern Linguistics in Deccan College conceived this project in 1948. At present, the project team consists of 22 faculty and researchers of Sanskrit.

Features of the Project

(a) The dictionary contains words in alphabetical order. It follows historic principles in stating the meaning e.g., the word beginning with the letter 'अ', like Agni will have all the citations from Sanskrit texts starting with Rig Veda and the references from the texts following Rig Veda, chronologically arranged. This helps a reader to understand the historical development of the meaning of the word.

(b) **35 volumes** have been published as part of this project. These volumes consist of references from 62 knowledge disciplines restored in the Sanskrit language and trace the language's linguistic developments right from Rigveda to Hasyarnava (1850 AD).

(c) The first volume took three years to be published in 1976. But technological intervention and an exclusive software with a font named **KoshaSHRI** have quickened the process.

Significance

It will be the world's biggest dictionary. The Oxford English Dictionary with 20 volumes and 2.91 lakh word entries so far remain among the most popularly used dictionaries. The Encyclopedia Sanskrit Dictionary, once ready, **will be three times larger**. The 35 volumes published so far contain about 1.25 lakh vocables (word).

5. Damage to Artwork in Sittanavasal

News: At least 3/4th of the art in Sittanavasal is either damaged or vandalised. This is due to unrestricted public access and general exposure to the elements.

About Sittanavasal

It is located in Pudukottai district of Tamil Nadu.

It is considered by historians to be one of the oldest inhabited areas in the district and a **major centre of Jain influence** for 1,000 years just before the Christian era.

Sittanavasal is the name used synonymously for the hamlet and the hillock that houses **(a)** The **Arivar Kovil** (temple of Arihats – Jains who conquered their senses); **(b)** ‘Ezhadipattam’ (a cavern with 17 polished rock beds); **(c)** Megalithic burial sites; **(d)** The Navachunai tarn (small mountain lake) with a submerged shrine.

This is the only place in Tamil Nadu where **Pandya paintings** can be witnessed. The site is administered by the Archaeological Survey of India (ASI). ASI has undertaken conservation measures and also introduced digital checks to track public access.

About Sittanavasal's Painting works

The artwork on the ceiling of the sanctum and the Ardha mandapam of Arivar Kovil is an early example of post-Ajanta cave paintings of the 4th to 6th centuries. It is done using the **fresco-secco technique** (a process that dispenses with the preparation of the wall with wet plaster).

The ceiling paintings show **'bhavyas'** (exalted souls who work to achieve moksha or spiritual liberation) enjoying themselves in a pool, full of blooming lotuses.

The colours are a mixture of plant dyes and mineral elements such as lime, lamp black, and clay pigments such as ochre for yellow and terre verte for the greyish-green tints.

About Sittanavasal's Inscriptions

The Sittanavasal has inscriptions from **Brahmi** and **'vattaezhuthu'**, from the 3rd century AD. Early Tamil inscriptions from the ninth century AD of the Jain monk **Ilan-Gautaman** were also present here.

6. Mahakaleshwar Corridor

News: The Prime Minister has inaugurated the Mahakaleshwar Corridor in Ujjain.

About the Mahakaleshwar Corridor

Mahakal Maharaj Mandir Parisar Vistar Yojana is a plan for the expansion, beautification, and decongestion of the Mahakaleshwar temple and its adjoining area in Ujjain district.

A 900-metre-long pedestrian corridor has been built with 108 murals and 93 statues of Lord Shiva along the way.

About Mahakaleshwar Temple

Mahakaleshwar Jyotirlinga is a Hindu temple dedicated to Shiva. It is located in the ancient city of Ujjain in the state of Madhya Pradesh.

The temple is situated on the side of the holy river *Shipra*. The temple in its present form was built by the Maratha general **Ranoji Shinde** in 1734 CE.

Mahakaleshwar Jyotirlinga is one of the 12 *jyotirlingas* considered the most sacred abodes of Shiva.

According to the records, the temple's Mahakal *Lingam* is believed to be *Swayambhu* (self-manifested) and unlike any other *jyotirlingas* in the country, the idol of Mahakaleshwar faces south.

The shrine is also revered as one of the 18 *Maha Shakti Peeth* in India.

7. Indian Heritage Textiles

News: UNESCO has released a list of 50 exclusive and iconic heritage textile crafts of India under the title “Handmade for the 21st Century: Safeguarding Traditional Indian Textile”.

Textiles listed in the UNESCO Document

The UNESCO document lists the histories and legends behind the textiles, describes the complicated and secret processes behind their making, mentions the causes for their dwindling popularity, and provides strategies for their preservation.

Some of the textiles mentioned are:

North India: **Khes** from Panipat, **Chamba rumals** from Himachal Pradesh, **Thigma** or wool tie and dye from Ladakh and **Awadh Jamdani** from Varanasi.

South India: **Ilkal** and **Lambadi** or **Banjara** embroidery from Karnataka, **Sikalnayakanpet Kalamkari** from Thanjavur, **Toda** embroidery and **Sungadi** from Tamil Nadu and **Himroo** weaves from Hyderabad.

Other states: **Kunbi** weaves from Goa, **Mashru** weaves and **Patola** from Gujarat, **Himroo** from Maharashtra and **Garad-Koirial** from West Bengal and Bandha tie and dye weaving from Sambalpur in Odisha.

Miscellaneous

1. Triple Dip La Niña

News: The World Meteorological Organization (WMO) has predicted that the current La Niña phase is likely to continue for the next 6 months, making it a Triple dip La Niña.

About El Nino and La Niña

El Nino and La **Niña**, which mean ‘the boy’ and ‘the girl’ in Spanish, are mutually opposite phenomena.

La Niña refers to the phase in which **sea-surface temperatures (SST) are cooler than normal**. The warmer phase is known as El Niño.

Together they constitute the **El Niño-Southern Oscillation system (ENSO)**.

Normally, El Nino and La Niña occur every 4-5 years. El Nino episodes occur more frequently and are usually associated with more impactful weather events. La Niña, on the other hand, has a longer run.

Impact of La Niña and El Nino on the Indian Monsoon

El Niño years in India have witnessed **extreme heat** and **below-normal rainfall levels during monsoon**, even though El Niño might not be the only factor. In 2014, an El Niño year, India received 12% deficient rainfall from June to September.

La Niña years are known to favour the Indian summer monsoon. India received 925 mm of rainfall in Monsoon 2022 (June-September 2022), 6.5% higher than the average (868.6 mm).

Triple Dip La Niña

‘Triple Dip’ La Niña is a period where the **La Niña period extends for up to three consecutive winters**.

La Niña phenomenon started building up in September 2020 and is expected to continue for another six months. There is a 70% chance of this phenomenon to continue from September to November 2022 and a 55% chance of it continuing through December 2022 – February 2023.

Impact of Triple Dip La Niña

The continuance of La Niña further into 2023 is not bad news from the Indian standpoint. But it is not the same for many other regions where La Niña has very different impacts.

In most parts of the US, La Niña is associated with very dry winters.

In Australia and Indonesia, and generally in the tropical region, La Niña is expected to bring more rainfall. The excessive rainfall in Pakistan, which is experiencing its worst flooding disaster, can also be blamed in part on La Niña.

2. Climate Change and Hydropower Projects

News: According to a study, more than 650 hydropower projects planned or under construction in the Himalayan region are at risk from hazards related to melting of glaciers.

About the study on Hydropower projects in the Himalayas

Hydropower as a low-carbon source of energy is projected to play an important role in meeting the rising energy demands in South Asia. Hydropower potential in the Himalayas are mostly untapped. 650-odd projects have potential of ~260 GW of power.

However, these hydropower projects are facing hazardous threats due to climate change. These hazards include **landslides, rock-ice avalanches, debris flow** and **lake outburst floods**, all of which could increase with glacier melt and slope destabilization e.g., the avalanche-triggered flood in Chamoli, Uttarakhand in February 2021 destroyed two hydropower projects.

Global warming is also expected to lead to more glacier melt and extreme precipitation events in the region. Increased development in the mountains could also aggravate risks.

The biggest threat may be lake outburst floods including landslide-driven lake outbursts and **glacial lake outburst floods (GLOFs)**. GLOFs refer to the sudden release of water from a lake formed by glacial melt.

3. Global Estimates of Modern Slavery Report by the ILO

News: International Labour Organization (ILO) has released a report titled Global Estimates of Modern Slavery report.

Key Findings of the Report

Modern Slavery: Modern Slavery includes **forced labour** and **forced marriage**, both refer to the situation of exploitation when a person cannot escape owing to threats, violence, deception and abuse of power.

Around 50 million people were living in modern slavery in 2021. Of these people, 28 million were in forced labour and 22 million were trapped in forced marriage.

The number of people in modern slavery has risen significantly in the last 5 years. 10 million more people were in modern slavery in 2021 compared to 2016 global estimates. Women and children remain disproportionately vulnerable.

Forced Labour: It accounts for 27.6 million of those in modern slavery. Around 86% of forced labour cases are found in the private sector. Almost 1 in 8 of all those in forced labour are children.

Forced Marriage: An estimated 22 million people were living in forced marriage in 2021. This indicates an increase of 6.6 million since the 2016 global estimates.

Recommendations of the Report

The report proposes a number of recommended actions which include: **(a)** Improving and enforcing laws and labour inspections; **(b)** Ending state-imposed forced labour; **(c)** Stronger measures to combat forced labour; **(d)** Extending social protection; **(e)** Strengthening legal protections; **(f)** Addressing the increased risk of trafficking and forced labour for migrant workers; **(g)** Greater support for women, girls and vulnerable individuals.

4. Global Innovation Index, 2022

News: The Global Innovation Index, 2022 has been released by the World Intellectual Property Organization.

About the Global Innovation Index

It is published by the World Intellectual Property Organization (WIPO) annually. Its aim is to track the most recent global innovation trends against the background of an ongoing COVID-19 pandemic, slowing productivity growth and other evolving challenges.

The index is calculated as the average of two sub-indices.

Innovation Input Sub-Index: It gauges elements of the economy that enable and facilitate innovative activities and is grouped into 5 pillars: **(a)** Institutions; **(b)** Human capital and research; **(c)** Infrastructure; **(d)** Market sophistication; **(e)** Business sophistication.

Innovation Output Sub-Index: It captures the actual result of innovative activities within the economy and is divided into two pillars: **(a)** Knowledge and technology outputs; **(b)** Creative outputs.

Key Findings of the Index

India: India has been ranked at the 40th position in the index in 2022. This is the first time India has entered the top 40. In 2021, India was in the 46th position.

India is the innovation leader in the lower middle-income group. India continues to lead the world in **ICT services exports** and holds top rankings in indicators like venture capital receipt value, finance for start-ups, graduates in science and engineering and domestic industry diversification.

The Index has been topped by Switzerland has emerged as the world's most innovative economy for the 12th consecutive year. Switzerland was followed by the US, Sweden, the UK and the Netherlands.



1. Asia Pacific Institute of Broadcasting Development (AIBD)

It was established in 1977 under the auspices of UNESCO. It is a regional inter-governmental organization servicing countries of the United Nations **Economic and Social Commission for Asia and the Pacific** (UN-ESCAP) in the field of **electronic media development**. Its mandate is to achieve a **vibrant and cohesive electronic media environment** in the Asia-Pacific region through policy and resource development. AIBD currently has 26 countries as full members represented by 43 organizations, and 52 affiliate members. Its secretariat is in **Kuala Lumpur**, Malaysia.

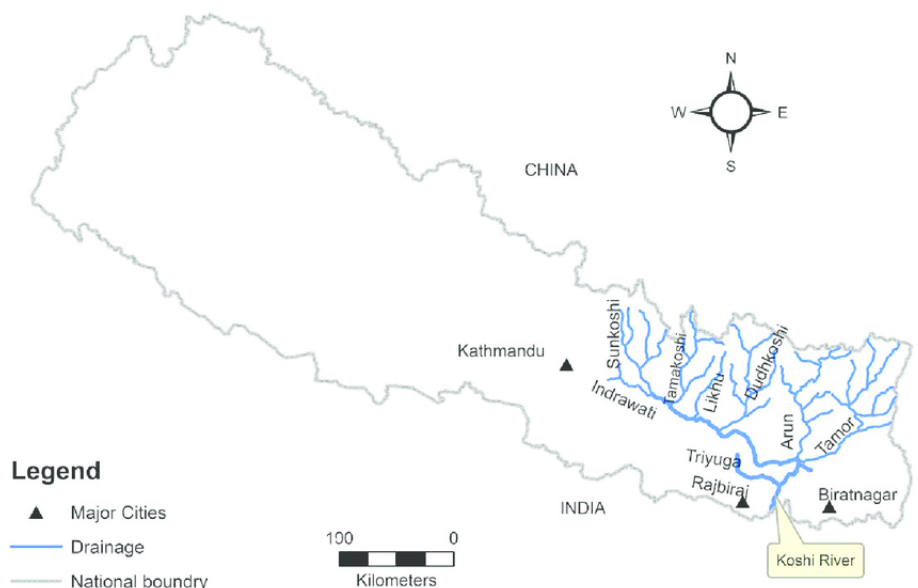
2. Asian Palm Oil Alliance (APOA)

Edible oil trade associations from 5 palm oil importing countries in South Asia; **India, Pakistan, Sri Lanka, Bangladesh and Nepal** have announced the setting up of Asian Palm Oil Alliance. Its aim is to **safeguard the economic and business interests of the palm oil consuming countries** and will work towards increasing the consumption of palm oil in member countries. It will try to ensure that palm oil is recognised as a high-quality and healthy vegetable oil and to change its negative image.

Asia accounts for around 40% of the global palm oil consumption. Indonesia and Malaysia are the biggest palm oil exporters in the world. India is the largest importer of palm oil in Asia, accounting for 15% of global imports. India's annual imports of edible oil are around 13-14 million tonnes (MT).

3. Saptakoshi High Dam Project

Saptakoshi High Dam is a multipurpose project proposed to be constructed on the Saptakoshi River of Nepal. The project is primarily aimed to control floods in southeast Nepal and northern Bihar and to generate hydropower. The project will provide irrigation, control floods and generate 3,000 MW of electricity. India and Nepal have agreed to take forward the dam project through further studies.



4. The Mahakali treaty

The Mahakali Treaty was signed in 1996 over the integrated development of the Mahakali River, including Sarada Barrage, Tanakpur Barrage and Pancheshwar project.

Mahakali River is also known as Sharda River or Kali Ganga in Uttarakhand. It joins the Ghagra river in Uttar Pradesh, which is a tributary of the Ganga.

5. JATE Manesar Anti-terror 2022

JATE is an annual counter-terrorist exercise held within the **framework of the SCO RATS**. The National Security Guard (NSG) hosted the JATE 'Manesar Anti-Terror 2022'. This is stage 2 of the exercise. Stage

1 of the Exercise was conducted in July-August 2022 by the National Counterterrorist Forces of SCO Member Countries in their respective territories. (Refer EPIC September 2022 for Shanghai Cooperation Organization (SCO)).

6. Tri-services Missile Command

The government is considering setting up of a tri-services missile/rocket command **on the lines of the space and the cyber command** as the first steps toward military theatre commands. The proposed missile command will be responsible for the deployment of missile and rocket regiments against any hostile adversary e.g., conventional missiles like BrahMos and Akash as well as Pinaka rockets will be **placed under one command** for rapid deployment against any adversary. It will be headed by Commanders of the three services in rotation.

7. Light Combat Helicopter (LCH), Prachand

The indigenous Light Combat Helicopter (LCH), **Prachand** has been formally inducted into the Indian Air Force (IAF). The LCH is the first indigenous **Multi-Role Combat Helicopter**. The LCH has been designed as a twin-engine, dedicated combat helicopter of 5.8-ton class, thus categorised as light. It has a maximum speed of 268 km/hr, a range of 550 kilometres, and the maximum density altitude of 6.5 kms. It has been designed and developed by Hindustan Aeronautics Limited.

India has been operating French-origin legacy helicopters, **Chetak** and **Cheetah**, made in India by the HAL. These single-engine machines are primarily used for utility helicopters. Indian forces also operate the **Lancer, an armed version of Cheetah**. The IAF currently operates the Russian-origin Mi-17 and its variants. They are to be phased out starting in 2028.

8. Sounding Rockets

Sounding rockets are usually one or two-stage **solid propellant rockets**. They are primarily intended for **probing the upper atmospheric regions** using rocket-borne instrumentation. They also serve as platforms for testing prototypes of new components or subsystems intended for use in launch vehicles and satellites.

9. RH-200

RH-200 is a part of the **Rohini**-sounding rocket family used by the ISRO for atmospheric studies. It has completed 198 consecutive successful flights so far. It is a **two-stage rocket** capable of climbing to a height of 70 km bearing scientific payloads. The first and second stages of RH-200 are powered by solid motors. The '200' in the name denotes the diameter of the rocket in mm.

10. Zhurong Rover (Mars)

It is **China's first Mars rover mission**. The rover went aboard the **Tianwen-1 space probe**. It was launched in the Mars Orbit Mission in 2021. It has been named after a traditional fire god. It carries multispectral cameras and instruments to analyze the composition of the rocks. It will also investigate **subsurface characteristics with ground-penetrating radar**. It landed on a site located in **Utopia Planitia**. It is the largest recognized impact basin on Mars. China became the third country after the former Soviet Union and the United States to put a robot rover on Mars. It has found **evidence of major floods** that took place billions of years ago.

11. Vyommitra

It is a **'female' robot astronaut** unveiled in 2020. Vyommitra is a half-humanoid lacking lower limbs. It has been designed to resemble a human with facial expressions and speech and sight capabilities. It is undergoing pre-flight ground tests at the ISRO Inertial Systems Unit (IISU). The humanoid will **fly aboard unmanned test missions** ahead of the *Gaganyaan* human space-flight mission. The IISU was responsible for the design, development, and integration of the robot. The Vikram Sarabhai Space Centre (VSSC) at Thumba developed its fingers. The AI-enabled robot is designed to fly aboard a rocket, withstanding vibrations and shock during the flight.



12. Super App

The concept **'Everything App'** or 'Super app' is popular in Asia and tech companies across the world have tried to replicate it. A Super App offers a **suite of services** for users such as messaging, social networking, peer-to-peer payments and e-commerce shopping. Some examples include **WeChat of China** (can be used for hailing taxi, sending money or making payments at stores, use it as an electronic identification system, etc.) and **Grab app of Southeast Asia** (offers food delivery, ride-hailing, on-demand package delivery and financial services and investing). Super apps have concerns like increase in the possibility of a monopoly, and privacy concerns like sharing of data with 3rd-party service providers.

13. Programming Languages for Crypto-economy

C++: It is a programming language associated with **Bitcoin**. It is termed as an **accessible programming language** that users of Java, C, and C# can easily learn due to existing similarities. It is also one of the most used programming languages with wide applications in operating systems like MacOS and Windows, gaming devices, search engines, and machine learning.

Solidity: It is the programming language mainly used on the blockchain platform **Ethereum**. It is also known as a 'curly bracket language'. Parts of the Ethereum ecosystem also support several other programming languages such as Python, Ruby, Rust, Java, and more.

Rust: Rust has the distinction of being called the "perfect programming language" in 2021 by Twitter co-founder Jack Dorsey. Blockchains such as **Solana blockchain**, The **Polkadot blockchain** uses Rust. However, developers say that Rust is too difficult to learn.

Haskell: **Cardano's smart contract** programming language is based on Haskell. It is well-suited to deliver accurate crypto projects due to its immutability feature.

14. Advanced Dvorak Technique (ADT)

It is a widely used system to **estimate tropical cyclone intensity**. This technique utilizes the available satellite images obtained from **polar-orbiting satellites** to examine the features of the developing tropical storms (hurricanes, cyclones and typhoons). It uses images in the **visible spectrum** (daytime) and **infrared images** (night). This technique cannot help make any predictions, or measure wind or pressure or any other meteorological parameters associated with the cyclone. But it is a **guide to estimate the storm's intensity and possible intensification**.

This technique is said to be one of the greatest meteorological innovations. It has been named after US meteorologist Vernon Dvorak.

15. SOVA Trojan

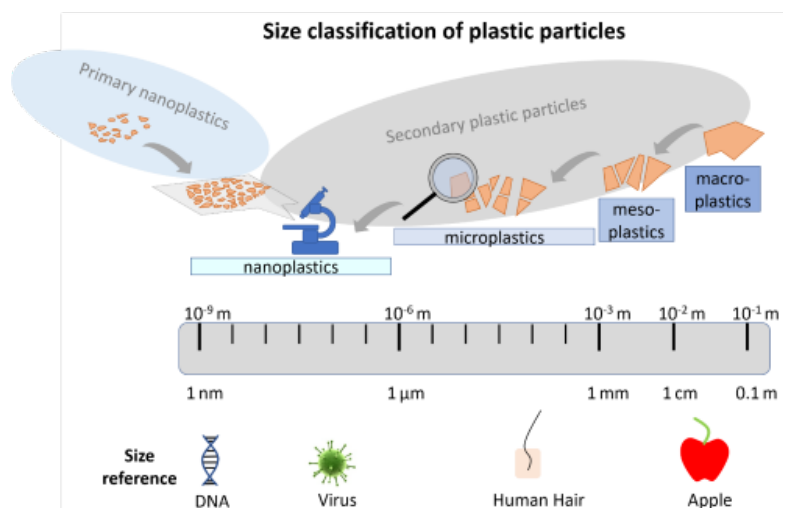
It is a mobile banking '**Trojan**' virus. SOVA malware **hides itself within fake Android applications** that show up with the logo of legitimate apps like Chrome, Amazon, NFT platform to deceive users into installing them. Once installed, it sends the list of all applications installed on the device to the C2 (command and control server) controlled by the threat actor in order to obtain the list of targeted applications. SOVA can **collect keystrokes**, steal cookies, intercept **multi-factor authentication (MFA)** tokens, **take screenshots** and **record video from a webcam** and can perform gestures like screen click, swipe using the android accessibility service. It also has the capability to **encrypt all data** on an Android phone and hold it to ransom.

16. Trojan

Trojan is a file, program, or piece of code that appears to be legitimate and safe but is actually malware. Malware is software intentionally designed to cause disruption to gain unauthorized access to information or systems.

17. Nanoplastics

Nanoplastics are tiny plastic debris particles **smaller than 1,000 nanometres** (1 nm is equal to one billionth of a metre). Researchers from the University of Eastern Finland have found that **nanoplastics can travel up the human food web**, through plants, insects and fish. This is possible due to their small size, nano plastics can likely **pass through physiological barriers** and enter organisms.



18. JALDOOT App

It has been developed by the **Ministry of Rural Development** and **Ministry of Panchayati Raj**. Its aim is to **monitor the underground water levels** across the country. The App will be used to capture the water level of selected two-three wells in every village measured twice a year. To ensure transparency, the officers have to **upload the geotagged photographs through the app**. The regular data to be input by the 'Jaldoots' would be integrated with the **database of the National Water Informatics Centre** which can be utilized for analysis and help in conservation efforts.

19. Modhera as 24x7 Solar-powered Village

The Government has declared Modhera in Gujarat's Mehsana district as **India's first 24x7 solar-powered village**. It will be India's first village to become a **net renewable energy generator**. It will also have a solar-based ultra-modern electric vehicle charging station. In the daytime, solar panels will provide power to the village. In the evening, BESS, India's first grid-connected megawatt-hour scale

battery energy storage system, will provide power to the houses. People will be able to save 60% to 100 % on electricity bills.

20. Ranipur Wildlife Sanctuary as Tiger Reserve

Uttar Pradesh (UP) has approved the notification of the State's 4th tiger reserve (Other are Dudhwa, Pilibhit and Amangarh (buffer of Corbett Tiger Reserve)) in the Ranipur Wildlife Sanctuary (RWS) in **Chitrakoot district**. It will be the 54th Tiger Reserve in India. RWS was founded in 1977. It has no tigers of its own. Tigers from nearby Panna (MP) frequently visit it. According to the National Tiger Conservation Authority, **RWS is an important corridor for the movement of tigers**. It has **tropical dry deciduous forests** and is home to fauna such as tigers, leopards, sloth bears, spotted deer, sambhar, chinkara and a number of birds and reptiles.

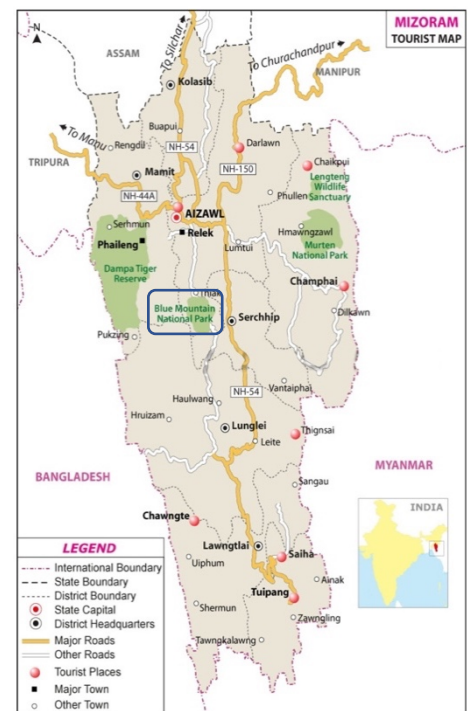


21. Mount Victoria Babax

Bird Count India has ranked the **Mount Victoria Babax** as the 8th rarest bird species in India among the 20 on their list. They belong to the **family of singing bird** and they are named after the highest mountain in Chin state of Myanmar (Mount Victoria). This species is restricted almost exclusively to the **Arakan Mountains in western Myanmar** and they are also **sometimes spotted in Mizoram**. Mount Victoria Babax bird was recently seen for the first time in 25 years in Phawngpui National Park.

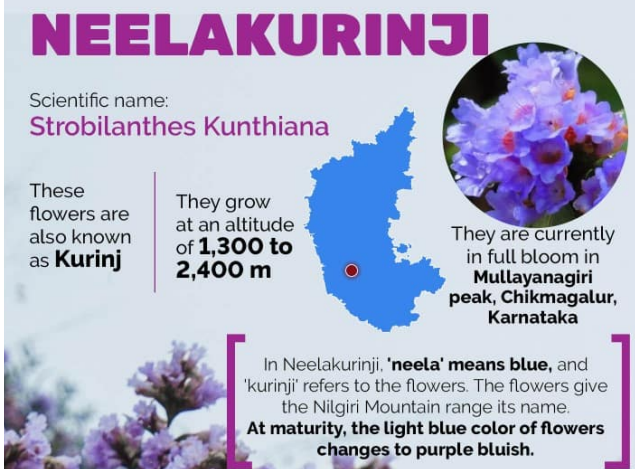
22. Phawngpui National Park (Blue Mountain National Park)

It is located in Mizoram. It gets its name from highest peak of Mizoram called as **Phawngpui Peak**. The peak is the highest point (at 2,157m) of the Mizo or Lushai Hills which are part of the Arakan Mountain range along the India-Myanmar border.



23. Neelakurinji

Neelakurinji is a shrub found in Western Ghats, covering the slopes of hills in Kerala, Karnataka and Tamil Nadu. It **blooms once every 12 years**. Besides the Western Ghats, Neelakurinji is also seen in the **Shevroy** in the Eastern Ghats, **Sanduru hills** of Bellary district in Karnataka. Nilgiri Hills, which literally means the blue mountains, got their name because of Neelakurinji. The flower has no smell or medicinal value.



24. Broad-billed Sandpiper

Broad-billed sandpiper (*Calidris falcinellus*) has been spotted for the first time at Nanjarayan tank bird sanctuary in Tamil Nadu. It is a **migratory bird species** found in **Northern Europe**, particularly in the Nordic Countries such as Norway, Sweden, Finland, and in Siberia. The bird spends its non-breeding season foraging on insects and crustaceans in the shallow waters and mud flats, mostly in the coastal belt of the eastern part of Africa, South Asia and Southeast Asia. Its **IUCN status is Least Concern**.



25. Nanjarayan Tank Bird Sanctuary

Nanjarayan Tank is a **biodiversity hotspot** and has recently been announced as the 17th bird sanctuary of Tamil Nadu. It is also known as Sarkar Periyapalayam Reservoir, and is located on the outskirts of **Tirupur city near Koolipalayam** about 60 kilometres from Coimbatore, Tamil Nadu. The tank was built by the then-local **King Nanjarayan** as a source for irrigation.

26. Whitefly

Whitefly is a **pest of cotton** that **lowers yield** by feeding on the underside of the leaf and spreading diseases like Cotton Leaf Curl Virus. It causes growth of black fungus on leaves impacting photosynthesis. Most of the whitefly species are **native to the Caribbean islands**. In India, the first invasive whitefly was reported in Kerala in 1995. Whitefly species are expanding their host range (species on which they feed) on valuable plant species like coconut, banana, mango, sapota, guava, cashew, oil palm, and important medicinal plants. This is due to their **polyphagous nature** (ability to feed on various kinds of food) and **prolific breeding** (produces a large number of offspring).

27. Kaduvur Slender Loris Sanctuary

The Government of Tamil Nadu has notified the **Kaduvur slender loris sanctuary**. The sanctuary will cover 11,806 hectares in Karur and Dindigul districts. Slender Loris is facing threats due to Habitat loss, electrocution of live wires, illegal smuggling and road accidents. Slender loris is a small nocturnal mammal. They are **arboreal** as they spend most of their life on



trees. Its **IUCN Status is Endangered**. It falls in **Appendix II of CITES** and **Schedule I of Wildlife (Protection) Act of India, 1972**. The species acts as a biological predator of pests in agricultural crops and benefits farmers.

28. Sloth Bear

The first World Sloth Bear Day was observed on October 12 to generate awareness and strengthen conservation efforts around the sloth bear (*Melursus ursinus*). It is **endemic to the Indian subcontinent**. Sloth bears are **omnivorous** and survive on termites, ants and fruits. Their **IUCN status is Vulnerable**. They are classified under **Appendix I of CITES** and Schedule I of the **Wildlife (Protection) Act of India, 1972**. Around 90% of the species' population is found in India. A small population of bears is also found in Nepal and Sri Lanka. Sloth bears are very fond of honey, hence their alternative name of "honey bear". They do not hibernate. For a long time, sloth bears were exploited as dancing bears by the nomadic **Kalander community** members. They face threats like habitat loss, human-animal conflict, and poaching.



29. Population of Asiatic Lions

According to the 2020 census, Gujarat has 674 Asiatic lions against 523 in 2015. Of these, 104 live on the Saurashtra coast; these include 17 lions along the Bhavnagar coast which has been developed as a satellite habitat for the Gir lion. In 10 years, the **coastal population** has grown from 21 to 104, **an increase of 395%**. An internal count of the department shows that in 2022, the number would be close to 130. A study has revealed that **casuarina equisetifolia plant** (Saru plant) was found in abundance in coastal areas. These plants **reduce the temperature by 3-4 degrees** making the place conducive for lions.

30. Caracal

It is a **medium-sized wild cat** native to Africa, Middle East, Central Asia, and South Asia including India. The population of this cat is declining in Asia (increasing in Africa). Its **IUCN Status is Least Concern**, but **Critically Endangered in India**. It falls under Appendix I for the Asian population and Appendix II for others of CITES and Schedule I of the **Wildlife Protection Act, 1972**. In India, Caracal is called *Siya gosh*, a Persian name that translates as 'black Ear'. It is a primarily **nocturnal animal**. The caracal is a carnivore. It typically preys upon small mammals, birds, and rodents. Large-scale hunting, illegal trading and loss of natural habitats are considered significant threats to the species. At present, its presence is restricted to Rajasthan, Kutch, and parts of Madhya Pradesh (MP).



31. TamiraSES Project

It has been launched by the district administration of Tirunelveli in Tamil Nadu along with Bengaluru-based non-profit ATREE. Its aim is to **restore the Social Ecological Systems of the Thamirabarani riverscape** from head-waters to the estuary to enable conditions for native biodiversity to thrive and maintain and enhance multiple ecosystem services to local stakeholders.

32. Thamirabarani River

Thamirabarani is the **only perennial river in Tamil Nadu**. It originates in the **Pothigai Hills** of the Western Ghats in Tirunelveli district. The river flows through Tirunelveli and then neighbouring Thoothukudi and ends in the Gulf of Mannar at Punakayil. The river supports wildlife such as the Nilgiri marten, slender loris, lion-tailed macaque, white spotted bush frog, galaxy frog, Sri Lankan Atlas moth and the great hornbill. The river also has historical value and is mentioned extensively in Sangam Era literature. The river is stressed because of release of **industrial effluent, sewage** and **water hyacinths**.



33. Vishnugad Project

It is a **run-of-river hydroelectric project** being constructed on **Dhauliganga River in Chamoli District** of Uttarakhand. It is being built by the **Tehri Hydropower Development Corporation (THDC)**, a partially State-owned enterprise. The project has been **funded by the World Bank** and was sanctioned in 2011. The project is proposed to be completed in June 2023. Residents are **opposing this project** on the grounds of ecological impact, forced resettlement, loss of livelihoods, threats to the local Lakshmi Narayan Temple (deemed to be of historical and cultural importance), limited availability of water and inadequate compensation.

34. Varanasi as SCO Tourism and Cultural Capital

Varanasi has been nominated as the first-ever SCO Tourism and Cultural Capital during the period 2022-2023. This will promote tourism, and cultural and humanitarian exchanges between India and the SCO member Countries.

35. Modhera Sun Temple

It was made by **King Bhima I** of the **Chalukya dynasty** in the **early 11th century**. It is made to honour the Sun God in Modhera village of Mehsana district on the bank of **River Pushpavati**.

On every equinox, the first ray of the rising sun falls on a diamond placed on the head of the Sun God. The Sabha Mandap stands on 52 pillars, signifying the 52 weeks in a year. There are carvings of the sun on the walls to show its unity with air, water, earth and space. In 2014,



Modhera Sun Temple entered the list of **UNESCO World Heritage Sites**. It enjoys the same significance as the other two well-known sun temples in Kashmir (**Martand Sun Temple**) and Odisha (**Konark Sun Temple**).

36. Bathukamma Festival

The Ministry of Culture has organized the celebration of Bathukamma festival at Kartavyapath, India Gate, New Delhi. It is an **annual State festival of Telangana**. The festival is celebrated by the women folk, heralding the beauty of nature in vibrant colours of multitudinous flowers. The festival begins a week before the grand '**Saddula Batukamma**' (the grand finale of the Bathukamma festival) which falls two days before Dussehra. During the 9-day festival, women and girls sing and dance around specially arranged flowers (called *Bathukamma*). At the end of the festival, they immerse these flowers in local ponds.

37. Nizam's Ceremonial Sword

The ceremonial sword is of **Indo-Persian design** and is shaped like a snake and has serrated edges and a damascene pattern (relating to the city of Damascus) with gold etchings of an elephant and tiger (dated circa 1350 CE).

The sword was exhibited by Asaf Jah VI, Nizam of Hyderabad (1896-1911) at the **1903 Imperial Durbar**, (to commemorate the coronation of King Edward VII as Emperor of India). The sword was later gifted by Maharaja Sir Kishen Pershad, the Prime Minister of Hyderabad to General Sir Archibald Hunter, Commander-in-Chief, Bombay Command in 1905. The sword was then donated to Glasgow Life museums collections in the UK in 1978. The sword will be returned to India soon.



38. India Nutrition Rating

It rates the **overall nutritional profile** for packaged food. Food items are assigned a rating from $\frac{1}{2}$ (**0.5 star (least healthy)**) to **5 stars (healthiest)**. According to the latest guidelines by the FSSAI, the rating shall be displayed close in proximity to the name or brand name of the product on front of pack. The foods are rated on the basis of content of **saturated fat; sugar; sodium; fruit and vegetables (FV); nuts, legumes, and millets (NLM); dietary fiber; and protein** per 100 gm of solid or 100 ml of liquid foods. Food such as milk and milk products, butter oil, ghee, vegetable oil and fat, fresh and frozen fruit and vegetables, fresh and frozen meat, egg, fish, flour and sweeteners **will not have to display the star rating**.

39. Tele MANAS

The Tele Mental Health Assistance and Networking Across States (Tele MANAS) initiative was launched on the occasion of the World Mental Health Day (October 10). The programme includes a network of **23 tele-mental health centres of excellence**. Its aim is to provide **free tele-mental health services** all over the country round the clock, particularly catering to people in remote or under-served areas. It has been launched by the **Ministry of Health & Family Welfare. National Institute of Mental Health and Neuro-Sciences (NIMHANS) is the nodal centre**. A toll-free, 24/7 helpline number (14416) has been set up allowing callers to select the language of choice for availing services. The calls would be routed to Tele-MANAS cells in the respective State and UT.

40. International Treaty on Plant Genetic Resources for Food and Agriculture (ITPGRFA)

It is also known as the **Seed treaty** was adopted by the 31st session of the Food and Agriculture Organization (FAO) in November 2001. The aim of the Treaty is to establish a global system to provide farmers, plant breeders and scientists with access to plant genetic materials. The treaty came into force in 2004 and has been **ratified by 149 countries including India**. India hosted the 9th session of the Governing Body of the ITPGRFA.

41. India Hypertension Control Initiative (IHCI)

It was launched in 2017. It is a collaborative initiative of the Ministry of Health, **Indian Council of Medical Research**, State Governments and **World Health Organization**. Its aim is to achieve 25% relative reduction in raised blood pressure by 2025. The **2022 UN Interagency Task Force, and WHO Special Programme on Primary Health Care Award** was given to India for IHCI initiative.

42. Aashwasan Campaign

It has been organized by the **Ministry of Tribal Affairs** and **Ministry of Health and Family Welfare** under the '**Tribal TB Initiative**'. Under the campaign, door-to-door screening for TB was under-taken in more than 68,000 villages. Based on this campaign, the government has now **zeroed in on 75 tribal districts**, where a **3-pronged strategy** will be implemented to make these districts **TB-free**. The three-pronged strategy is: (a) Generating demand for TB services through continued engagement with community influencers; (b) Improving the delivery of TB services by enhancing the TB testing and diagnosis infrastructure; (c) Decreasing the risk of transmission and decreasing the pool of infections through active case-finding campaigns. (Refer EPIC September 2022 for TB-Mukt Bharat: Making India TB-Free by 2025).

43. Community Seed Bank

It has been launched by **SASTRA (Deemed) University** with support from the **Science and Heritage Research Initiative (SHRI)** programme of the Department of Science and Technology (DST). Under the initiative, the lead farmer **cultivates one to many traditional varieties on his farm**, a part of which (after harvesting) is shared and distributed to other interested farmers in the neighbouring localities and districts with or without payment. This is an informal structure with voluntary participation. The purpose is to **trace, collect, redeem and restore ~20 heritage rice varieties of Tamil Nadu that have been lost due to monocropping of hybrids**.

44. Aliva Programme

It has been launched by the **District Administration of Nayagarh in Odisha**. The district has skewed gender ratio of 855. The Programme has been launched to **curb child marriage**. **Anganwadi workers** will maintain a **register of every adolescent girl in the district and their information** (address, education status, family details, educational progress, skill training status and health issues etc.). Anganwadi workers will collaborate with other stakeholders (schools, Child Marriage Prohibition Officer etc.) to prevent any incident of child marriage. (Refer EPIC June 2022 for The Role of ASHAs in India's Healthcare).

45. Operation Meghchakra

It is a pan-India drive against the circulation and sharing of Child Sexual Abuse Material (CSAM). The operation is being carried out following the inputs received from Interpol's Singapore special unit.

46. Operation Garuda

The Central Bureau of Investigation (CBI) has launched a multi-phase 'Operation Garuda' against an illicit drug trafficking network. The operation has been initiated in close coordination with **Interpol and the Narcotics Control Bureau** for combating the smuggling of illicit drugs and psychotropic substances, with a special focus on the Indian Ocean region.

47. PAREKH, Performance Assessment, Review and Analysis of Knowledge for Holistic Development

The Union Government is planning to set up a national regulator PAREKH for achieving a benchmark framework to assess students at the secondary and higher secondary level. It will act as a **constituent unit of the NCERT**. It will be tasked with **holding periodic learning outcome tests** like the National Achievement Survey (NAS) and State Achievement Surveys. Its objective is to **bring uniformity across the State and Central Boards** which currently follow different standards of evaluation, leading to wide disparities in scores. It aims to put an end to the emphasis on rote learning, as envisaged by the National Education Policy (NEP) 2020.

48. Classification of Small Companies

Small businesses are corporations, partnerships, or sole proprietorships which have fewer employees and/or less annual revenue than a regular-sized business or corporation. The Government notifies rules and provisions regarding Small Companies under the **Companies Act, 2013**. The Ministry of Corporate Affairs has revised the rules to increase the threshold of small companies with paid-up Capital "**not exceeding Rs 4 crore**" and the turnover to "**not exceeding Rs 40 crore**".

49. SEED Scheme

The **Union Ministry of Social Justice and Empowerment** has launched the **Scheme for Economic Empowerment of DNTs (SEED)** for the welfare of **De-notified, Nomadic and Semi Nomadic Communities**. Its aim is to economically empower these Communities. The scheme is valid for a period of 5 years starting Financial Year 2021-22 to 2025-26. The scheme is applicable to families having income less than INR 2.50 lakh per annum. The benefits include: **(a)** Coaching for DNT/NT/SNT candidates to enable them to appear in competitive examinations; **(b)** Health insurance to these communities; **(c)** Financial assistance for construction of houses.

50. Special Assistance to States for Capital Investment

The Government of India has launched a Scheme for Special Assistance to States for Capital Investment for 2022-23. Financial assistance will be provided to the State Governments in the form of a **50-year interest-free loan for capital investment projects**. The Scheme has 7 parts that includes **PM Gati Shakti** related expenditure, **PM Gram Sadak Yojana**, **Incentivization for digitization**, Capital projects for **optical fiber networks** and **urban reforms** etc.

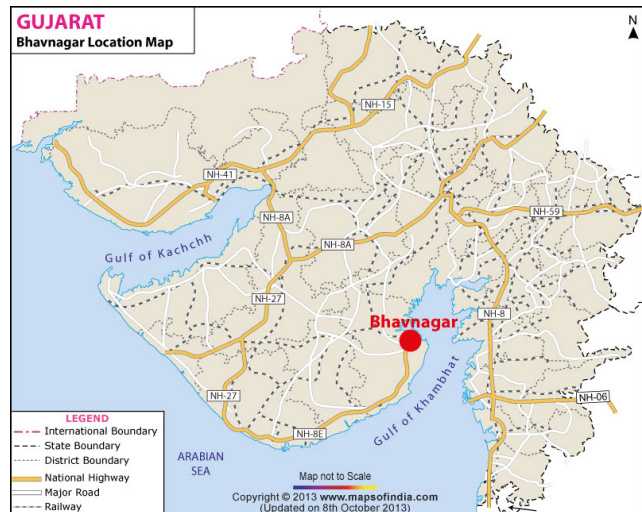
51. Jeevika Programme

It is an initiative of the **Bihar Government for poverty alleviation** (Bihar Rural Livelihoods Project) with assistance of the **World Bank**. It aims to empower rural poor by creating **self-managed community institutions** and enhancing incomes through sustainable livelihoods. Under this programme, a new initiative has been launched wherein **seized bottles of liquor will be provided**

to **Jeevika women workers for making bangles**. The women workers will be training in bangles making in other states. INR 1 crore has been allocated to set up a glass-making factory in Patna.

52. World's First CNG Terminal in Bhavnagar

The Prime Minister has laid the foundation stone for the World's first CNG (Compressed Natural Gas) terminal at Bhavnagar in Gujarat. Bhavnagar Port is a seaport in Saurashtra region of Gujarat. The port is in close vicinity to the **Dholera Special Investment Region (SIR)** and is expected to serve the industries that set up base in the region. Bhavnagar CNG Terminal will be developed through a public-private partnership (PPP). The project will have a cargo handling capacity of 1.5 million metric tonnes per annum (MMTPA).



53. PM-DevINE

The Union Cabinet has approved a new Scheme, Prime Minister's **Development Initiative for North East Region (PM-DevINE)** for the remaining 4 years of the 15th Finance Commission from 2022-23 to 2025-26. It is a **Central Sector Scheme with 100% Central funding**. It will be implemented by the **Ministry of Development of North Eastern Region (DoNER)**. Its objective is to fund infrastructure convergently, in the spirit of PM Gati Shakti and support social development projects based on the needs of the NER. The Scheme will also enable livelihood activities for youth and women fill the development gaps in various sectors.

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.