Forum IAS

7 PM COMPILATION

16th to 31st December, 2022

Features of 7 PM compilation

- Comprehensive coverage of a given current topic
- Provide you all the information you need to frame a good answer
- Critical analysis, comparative analysis, legal/constitutional provisions, current issues and challenges and best practices around the world
- Written in lucid language and point format
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Karnataka-Maharashtra Border Dispute – Explained, pointwise
Topic:- Indian Constitution and Polity
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Collegium System and the NJAC: The Issue of Judicial Appointments – Explained, pointwise
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Karnataka-Maharashtra Border Dispute – Explained, pointwise

Introduction

The Karnataka-Maharashtra Border Dispute has escalated with reports of violence in both States, attacking vehicles of other State. The border dispute has its origins in the States' reorganization in 1956 and has flared up every now and then since 1960s. The matter is already under adjudication of the Supreme Court. However, in the absence of any judicial settlement so far, the dispute has been exploited for political mobilitization. In this context, there is a need for peaceful settlement acceptable to all stakeholders, either through Judiciary or through the intervention of the Union Government.

What is the Karnataka-Maharashtra Border Dispute?

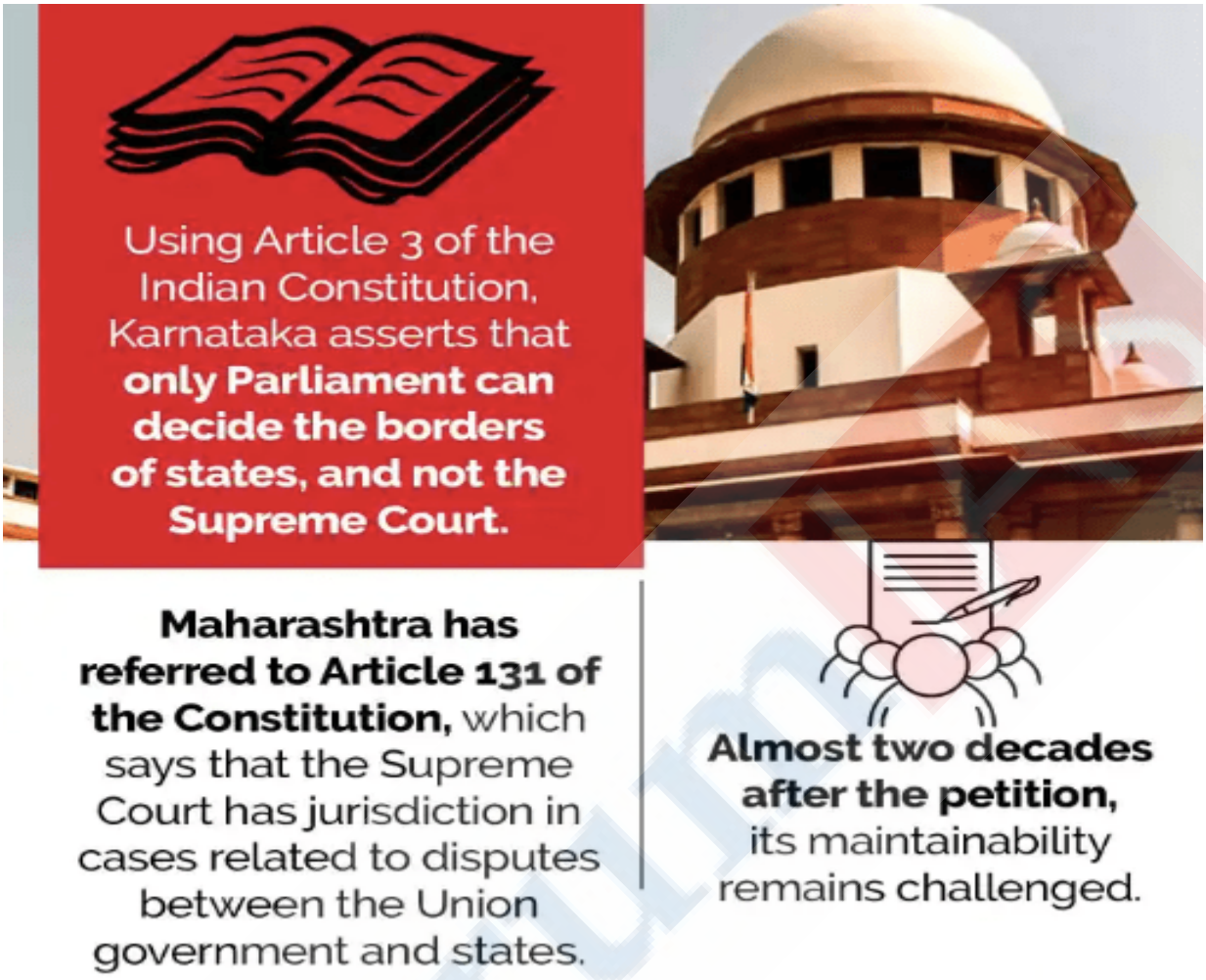
The Karnataka-Maharashtra Border Dispute has its origins in the reorganisation of states along linguistic lines via the **State Reorganisation Act, 1956**. Since its creation on May 1, 1960, Maharashtra has claimed that 865 villages, including Belagavi (then Belgaum), Carvar and Nipani, **should be merged into Maharashtra**. These regions have a significant Marathi-speaking population. Karnataka, however, has refused to part with its territory. On the other hand, **some villages in Maharashtra want to join Karnataka**. In November 2022, all 40 gram panchayats of the Jath taluk in Sangli district of Maharashtra, passed a resolution to join Karnataka. The Government of Maharashtra has submitted a petition challenging certain clauses of the State Reorganisation Act of 1956.

Genesis of the Dispute: The erstwhile Bombay Presidency, a multilingual province, included the present-day Karnataka districts of Vijayapura, Belagavi, Dharwad and Uttara-Kannada.

In 1948, the Belgaum municipality requested that the district, having a predominantly Marathi-speaking population, be incorporated into the proposed Maharashtra state. The States Reorganisation Act of 1956, divided states on linguistic and administrative lines. The Act made Belgaum and 10 talukas of Bombay State a part of the then Mysore State (renamed Karnataka in 1973).

Views of Maharashtra: Maharashtra has demanded realignment of its border with Karnataka. It invoked **Section 21 (2)(b)** of the State Reorganisation Act, submitting a petition to the Union Ministry of Home Affairs stating its objection to Marathi-speaking areas being included in Karnataka. It claimed 814 villages and the three urban settlements of Belagavi, Karwar and Nippani as part of the Bombay Presidency before Independence. It **filed a petition in the Supreme Court in 2004**, staking a claim over Belagavi.

Views of Karnataka: Karnataka has consistently argued that the inclusion of Belagavi as part of its territory is beyond dispute. It has cited the demarcation done on linguistic lines as per the Act and the **1967 Mahajan Commission Report** to substantiate its position. Karnataka has argued for the inclusion of areas in Kolhapur, Sholapur and Sangli districts (falling under Maharashtra) in its territory. From 2006, Karnataka started **holding the winter session of the Legislature in Belagavi**, constructing a massive Secretariat building in the district headquarters on the lines of the Vidhana Soudha in Bengaluru to reassert its claim. Karnataka asserts that **only Parliament can decide the borders of States** (Article 3 of the Constitution). Maharashtra has referred to **Article 131 of the Constitution**, which says that the Supreme Court has jurisdiction in cases related to disputes between the Union Government and States.



Source: MoneyControl

What are the reasons for the Inter-State Border Disputes?

Linguistic Identities: Several inter-state border disputes have their roots in the reorganisation of states in the 1950s, which was primarily based on language; language is now tied to the State identity. As a result, there have been a border disputes between Karnataka and Maharashtra, Karnataka and Kerala, Karnataka and Andhra Pradesh, Maharashtra and Telangana and so on.

District Boundaries: Many of these State boundaries were based on district boundaries established by the British instead of village boundaries. Borders are associated with maps. If a map is not laid out in minute detail where the administrative border stands, it can lead to a disagreement.

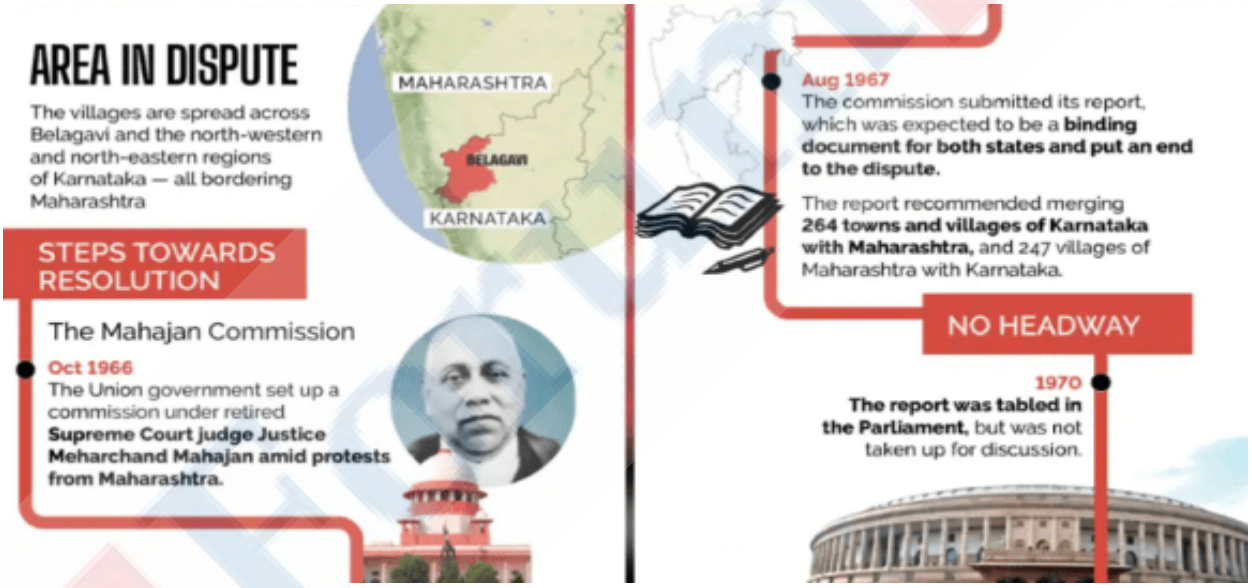
Colonial Cartographies: Most States boundaries have been constructed out of colonial cartographies on the basis of host states. They **rarely recognise the socio-cultural liminality of borders**.

Complex Topography: The topography has also been a source of difficulty; in many locations, rivers, hills, and forests span the border between two states, and the line itself cannot be physically demarcated. On their maps, colonial cartographers often labelled enormous tracts of

land as "thick forests" or "unexplored." Indigenous communities were, for the most part, left alone.

What steps have been taken to resolve the Karnataka-Maharashtra Border Dispute?

Union Government: **(a) Mahajan Committee**: The Union Government constituted the Mahajan Committee in 1966 to assess the situation. Representatives from both Maharashtra and Karnataka (then Mysore) state were part of the committee. The panel submitted its report in 1967. It recommended to to merge 264 cities and villages of Karnataka with Maharashtra (including Nippani, Nandgad, and Khanapur), as well as 247 villages of Maharashtra (including South Solapur and Akkalkot) with Karnataka. The Report was presented to the Parliament in 1970 but was not taken up for discussion; **(b) The Setalvad Study Team on Centre-State Relationships** (Part of Administrative Reforms Commission): It strongly recommended establishment of an Interstate Council. It said, "*Inter-state disputes need to be settled quickly and impartially; otherwise, they become festering sores that create friction, prevent development, give a perverse direction to the energies of people and governments, and generate hard feelings on all sides*"; **(c) Union Government Affidavit**: In 2010, the Union Government in its affidavit had stated that the transfer of certain areas to then Mysore (now Karnataka) was neither arbitrary nor wrong. It had also underlined that both Parliament and the Union Government had considered all relevant factors while considering the State Reorganisation Bill, 1956, and the Bombay Reorganisation Bill, 1960.



Source: MoneyControl

States: **(a)** In 1960, a 4-member committee was formed by both States, but it couldn't arrive at a consensus. Representatives submitted reports to their respective State Governments. In the subsequent decades, Chief Ministers of both States have met several times to find an amicable solution but have failed to settle the dispute; **(b)** In 2004, Maharashtra approached the Supreme Court challenging certain clauses of the State Reorganisation Act.

Supreme Court: The Supreme Court has observed that the issue should be handled via mutual dialogue. The Supreme Court is still hearing the case.

What are the Constitutional Provisions to resolve Inter-State Border Disputes?

The Constitution of India contemplates a variety of mechanisms for the settlement of Inter-State disputes.

Article 3: The Parliament has the power to alter the border of any State.

Article 131: It creates a judicial mechanism for dealing with Inter-State Disputes. The Supreme Court has original Jurisdiction to adjudicate any dispute between two and more States. The Jurisdiction is extremely wide and includes Inter-State Border Disputes.

Article 263: In Article 263, there is provision for the formation of an Inter-State Council. The President can create an Inter-State Council for inquiring into and advising upon disputes between States.

However, there is no explicit provision for boundary disputes similar to Article 262 for settlement of water disputes.

What are the implications of the Inter-State Border disputes?

Politicization of Disputes: Inter-State Border Disputes become an avenue of political mobilization. Political parties raise popular passions to reap electoral benefits. It becomes beneficial for parties to prolong the dispute, which hampers efforts for peaceful settlement.

Law and Order: Often political mobilization results in violence among the communities in border areas e.g., in the ongoing Karnataka-Maharashtra Border Disputes, buses/vehicles from the other States were targeted in both States. Blockades, restriction on free movement of goods from other States have economic implications as well.

Neglect of Disputed Regions: Uncertainty about the status of the disputed regions in future generally deters the State Governments from undertaking development activities in these regions. There is infrastructure deficit, lack of investments as well as neglect of basic facilities. This also leads to poor human development.

Trust Deficit: It leads to trust deficit between leaderships of the disputing States. It prevents cooperation and hampers the spirit of Cooperative Federalism.

What should be the approach for settling Inter-State Border Disputes?

Legal Settlement: The Supreme Court should take a more proactive approach in settling the Inter-State Disputes. The Karnataka-Maharashtra Border Dispute has been pending since 2004 (18 years). States should also abide by the Supreme Court Judgments.

Inter-State Council: The ISC has been **reconstituted** in May 2022. The Council should be enabled to play a more proactive role in Centre-State/Inter-state cooperation and dispute settlement. Settlement of all Inter-State Disputes (include water disputes) should be a mandate of the Council.

Pragmatic Approach: The State Governments/Political Parties also need to adopt a more pragmatic approach keeping national interest above all. Dispute Settlement requires a give-and-take approach, and States/Parties should be **ready to compromise** in peaceful settlement. Union Government should support the constructive efforts.

Address Local Concerns: All Stakeholders (Union Government, State Governments, Political Parties) should be mindful of the concerns of the local residents and should settle disputes taking into account their interests.

Conclusion

The violence ensuing amidst the Karnataka-Maharashtra Border Dispute is most unfortunate. Political parties need to realize that parochial/narrow approach may lead to short-term benefits but impacts national interests in the longer term. Hence it is best to settle such disputes through

a pragmatic approach. The Supreme Court should also be more proactive in settling such disputes, rather than letting them fester for long.

Syllabus: GS I, Post-independence consolidation and reorganization within the country, Regionalism; GS II, Issues and challenges pertaining to the federal structure.

Source: **Indian Express**, **The Hindu**, **The Times of India**, **MoneyControl**

[Kurukshetra December Summary] Technology Integration for Quality Education – Explained, pointwise

Introduction

Technology is the major driver of the 21st century, touching every aspect of human life. The effect of technology has increasingly blurred the distinctions between the physical, digital, and biological domains and it is rapidly affecting how people live, work, and communicate. With the advancement of digital technology, administrations and institutions all over the world have been fundamentally altered structurally and in terms of the relationship between governments and individuals. One of the most important lessons learnt from the epidemic is that the future is hybrid (a mix of digital and physical). In fact, the major goal of technology is to recognise and cultivate human potential while also promoting long-term human growth through digitalization. In this context, technology will become vital for imparting quality education in the coming future.

Importance of technology in Governance

The pandemic has amplified the importance of e-government and digital technologies as essential tools for communication and collaboration between policy makers, private sectors and societies across the globe. **e-Governance has become the cornerstone for building effective, accountable, resilient and inclusive institutions at all levels**, as called for in Sustainable Development Goal (SDG) 16, and for strengthening the implementation of Goal 17 (UN E-Government Survey, 2022).

With such revolutionary impact of technology, education sector could not be left untouched and during the COVID-19 pandemic, the pace of integration of technology in teaching learning processes has increased exponentially. During the pandemic, digital technology played an **indispensable role in holding the civil society together** by supporting the provision of basic-fundamental services in the field of health, education, and service.

National Education Policy (NEP) 2020 gives utmost importance to technology and states that "*The thrust of technological interventions will be for the purposes of **improving teaching-learning** and **evaluation processes**, **supporting teacher professional development**, **enhancing educational access**, and **streamlining educational planning, management, and administration** etc.*". It also recognises and addresses the issue of **digital divide** and elucidates that "*The benefits of online/digital education cannot be leveraged unless the digital divide is eliminated through concreted efforts, such as the Digital India campaign and the availability of affordable computing devices. It is important that the use of technology for online and digital education adequately addresses concerns of equity.*"

Use of Technology in Education

In the school education sector of India, technology has been used both in governance processes to **improve the efficiency and effectiveness of schooling system** and also for **enhancing quality of education**. Various governance related technological interventions have been initiated and undertaken by the Government:

UDISE+: Timely and accurate data form basis of effective policy and decision-making. Ministry of Education (MoE) had initiated Unified District Information System for Education (UDISE) in 2012-13 integrating DISE for elementary and secondary education which is one of the **largest management information system for school education** covering more than 5 million schools , 9.6 million teachers and 264 million children.

UDISE+ is an updated and improved version of USIDE. This is now online and has been collecting data in real-time since 2018-19. UDISE+ provides **robust, real-time, and credible information for an objective evaluation of the system**, which can be used for designing evidence based specific interventions for improvement in the school education sector. Further, UDISE+ has a mandate of **collecting information from all recognised and unrecognised schools** which are imparting formal education from Pre-primary to Class XII.

UDISE+, collects information through an online Data Collection Form (DCF) on parameters ranging from students, schools, teachers, infrastructure, enrolments, examination results etc. Ever since its introduction, UDISE+ has acquired the status of the official database of the MoE and is now operational in all the districts of the country.

Performance Grading Index (PGI): It is a tool to provide insights on the status of school education and to catalyse transformational change in the States/UTs on the basis of key indicators that drive their performance and critical areas for improvement. It grades all States/UTs on their **performance across 77 indicators on school education** and **helps identify gaps** thereby enabling all States/UTs to design appropriate interventions to bridge them. This was introduced from 2018-19/

The purpose of this PGI therefore is to help the States/UTs to **pinpoint the gap and accordingly prioritise area for intervention** to ensure that the school education system is robust at every

Online Survey Platform for National Curriculum Framework (NCF): With the arrival of NEP 2020, the focus of education has moved towards learning about **how to think critically**, solve problems, how to be **creative and multidisciplinary**, how to innovate, adapt, and absorb new material in changing fields. Pedagogy is expected to evolve to make education more experiential, holistic, integrated, inquiry-driven, discovery-oriented, learner-centred, flexible, and enjoyable. To make the above expectations a reality, a new CF is being developed by the NCERT. The development of this framework is unique as it is adopting a '**bottom-up**' approach in which suggestions are invited from all stakeholders on the basis of which new NCF will be developed.

In addition, drawing insights from citizen-centric process of development of NEP 2020, this framework has also been made **consultative**. To ensure participation of each and every citizen of the country in this curriculum development process, a citizen-centric **Digital Survey for National Curriculum** – DiSanc has been launched. Under this survey, suggestions and feedback has been collected from the public at large for the formulation of the NCFs.

NDEAR (National Digital Education Architecture): NDEAR has been launched with a larger vision to create a **unifying national digital infrastructure** to energise and catalyse the education ecosystem. The core idea of NEAR is to facilitate achieving the goals laid down by NEP 2020, through a digital infrastructure for innovations in the education ecosystem, ensuring autonomy and participation of all the relevant stakeholders. NDEAR will **enable a common set of principles and approaches to be followed in building, using, and re-using technology for education**.

Vidya Samiksha Kendra: Vidya Samiksha Kendra (VSK) has been set-up at national level at NCERT and is aimed at **leveraging data and technology to bring a big leap in learning outcomes**. VSK will include Student, Teacher and School registry which will bring synergy to

the work being done in the ecosystem by integrating data from different datasets and empowers students, teachers, and parents to bridge the gap. This will cover the entire data of school eco-system and will **analyse by using big data analysis**, artificial intelligence and machine learning in order to enhance the overall monitoring of the education system and thereby improving learning outcomes. All States and UTs have been provided financial support under ***Samagra Shiksha* Scheme** for setting up VSKs.

PRABANDH: Department of School Education and Literacy had launched PRABANDH (**Project Appraisal, Budgeting Achievements and Data Handling System**) in 2020. This System has been developed under *Samagra Shiksha* as a significant step towards leveraging technology to enhance efficiency and manage the implementation of the Centrally Sponsored Integrated Scheme for School Education. It has more than 10 lakh activated users and can be accessed from the School, Block, District and State Level.

A **data visualisation dashboard** has been created in the PRABANDH System for display of **monthly status of physical and financial progress** under the major interventions of *Samagra Shiksha* such as text books, uniforms, transport allowance, status of civil works, teaching learning materials etc. Technology integration has also been an integral part of enhancing quality of education.

Enhancing Quality of Education

Technology integration has also been an integral part of enhancing quality of education. Various initiatives have been undertaken to tackle this challenging situation:

PM e-Vidya: PM e-vidya **ensures coherent access to digital education** through multimodal approach. The digital platform of MoE 'DIKSHA' has been declared as '**One Nation, One Digital Platform**'. DIKSHA can be accessed by learners and teachers across the country and currently **supports 30 Indian languages**.

Each State/ UT leverages this platform in its own way and has the freedom to use the various capabilities of the platform to design and run programs for teachers and learners. DIKSHA policies and tools make possible for the education ecosystem (educationist, experts, organisations, institutions – government, autonomous institutions, non-government and private organisations) to participate, contribute and leverage a common platform to achieve learning goals at scale for the

For digital content to aid in the teaching and learning processes, a rich repository of varied resources was **contributed by Schools/individual teachers, content partners, NGOs, corporates through CSR under *VidyaDaan***.

For Children with Special Needs, **2970 Indian Sign language (ISL) based content**, ***Mukta Vidya Vani***, an **audio streaming podcast** and ***Radio Vahini***, with 24×7 broadcast and talking books (in Daisy format) for learners with Blindness and Low Vision have been prepared. A total of 3424 Audio Books have been 10,000 ISL dictionary words, have been uploaded on DIKSHA.

At present, **12 PM eVIDYA DTH TV channels** (One Class, One Channel from classes | to XII), are functioning that delivers class-wise contents on 24×7 basis are linked to DIKSHA through QR codes. A Podcast called ***Shiksha Vani*** of the CBSE is also being effectively used by learners of grades 9 to

Capacity Building of Teachers through NISHTHA online: National initiative for School Heads and Teachers Holistic Advancement (NISHTHA), an integrated training programme was initiated covering all the recommended areas and aims at **holistic development of teachers**.

Under NISHTHA 1.0, about 24 lakh school teachers and head teachers at elementary education level (Classes 1-8) across 34 States/UTs had completed training and were certified.

Subsequently, **NISHTHA 2.0 for Secondary teachers**, **NISHTHA 3.0 for Foundational Stage teachers**, and NISHTHA 4.0 for training of master trainers have been launched for building capacities of teachers at all levels.

Ensuring Learning for All

Realizing the necessity for digital education during COVID-19, the government resolved to focus on digital learning in 2022–23 to reverse the academic disruption produced by COVID. The following measures were announced in Budget 2022-23 to increase digital technology and ensure learning for all :

200 TV Channels: Due to learning gaps caused by the pandemic-induced closure of schools, there is a need to **impart supplementary teaching** and to **build a resilient mechanism for education delivery**. For this purpose, the '**one class- one TV channel**' program of PM e-VIDYA will be **expanded from 12 to 200 TV channels**. This will enable all states to provide supplementary education in regional languages for classes 1-12.

Virtual Labs: NEP 2020 recommends creating virtual laboratories so that **all students have equal access to quality practical, critical thinking** and hands-on experience for teaching-learning of Science, Mathematics and Vocational Skills. To support this around 750 virtual labs in science and mathematics, and 75 skilling -labs for the simulated learning environment, will be set up in 2022-23.

High Quality e-Content: High-Quality e-content in all spoken languages will be developed for delivery via internet, mobile phones, TV, and radio through Digital Teachers.

Competitive Mechanism For e-Content: A competitive mechanism for the development of quality e-content by the teachers will be set up to empower and equip them with digital tools of teaching and facilitate better learning outcomes.

Conclusion

The NEP 2020 calls for investment in digital infrastructure, online teaching platforms and tools, learning etc. It is focused on the promotion of multilingualism and the power of language in teaching and learning through innovative and experiential methods. These methods include gamification and apps, weaving in the cultural aspects of the languages – such as films, theatre, storytelling, poetry, and music- and by drawing connections with various relevant subjects and with real-life experiences.

Technology will be integral in developing lifelong learners who have a growth mind-set, innate curiosity, drive to explore and firm belief in ongoing, voluntary, and self-motivated pursuit of knowledge. An inclusive, equitable, affordable and integrated digital ecosystem is needed to facilitate and sustain lifelong learning and to reap the benefits of inclusive technology development so that no one is left behind.

Source: Kurukshetra December 2022

Solar Energy in India: Status, Challenges and Way Forward – Explained, pointwise

Introduction

India has undertaken ambitious targets under the Paris Agreement. India's climate action is dependent upon energy transition (in the electricity sector) by betting large on shift to solar energy. In 2014-15, the Government had set a target of producing 175 Gigawatt (GW) of renewable energy by 2022, with 100 GW of solar energy. The present installed capacity of solar energy is only 60% of the target. While, the Government is set to miss the ambitious target, nevertheless the progress in expansion of renewable and solar energy has been commendable. The installed renewable energy capacity has trebled from 38GW in 2014. The Government should take steps to address the challenges facing the sector and further enhance the pace of transition to clean energy.

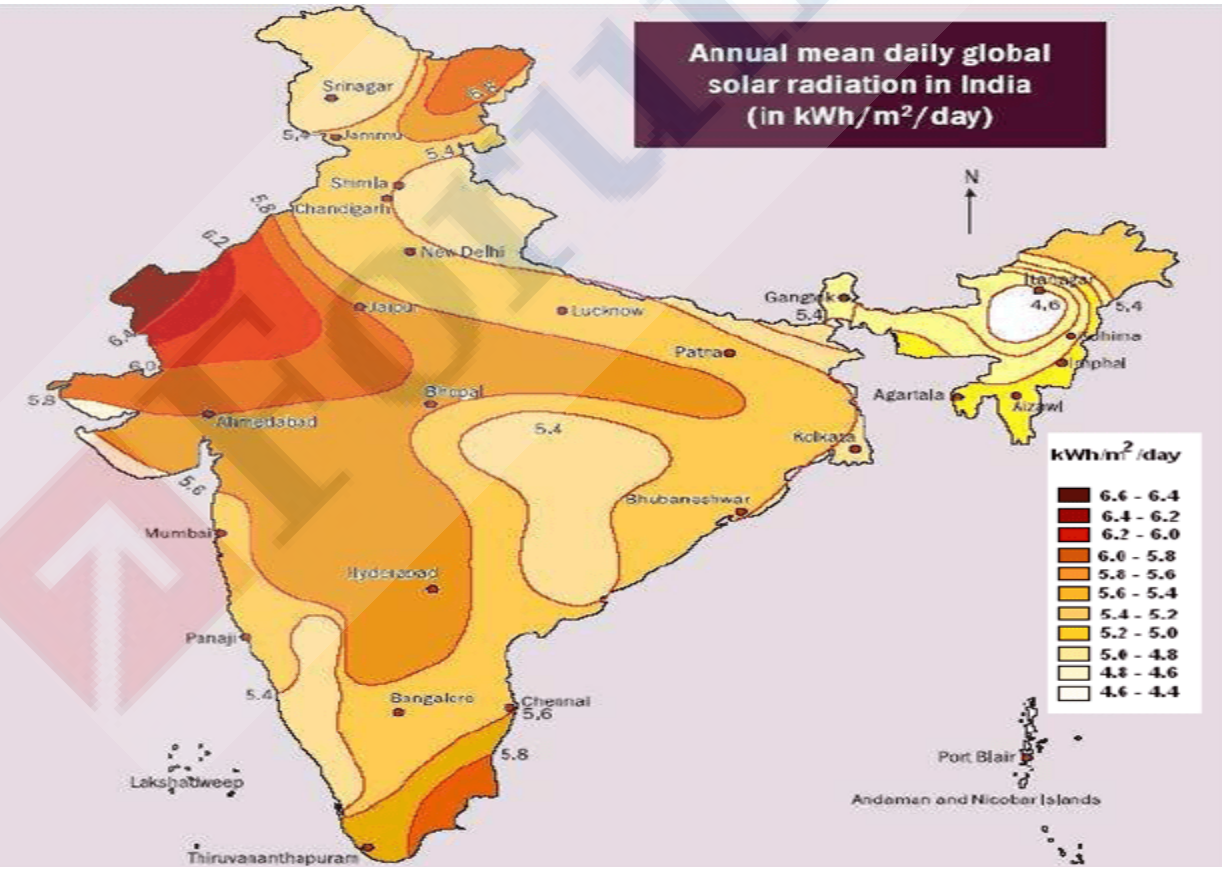
What are the Potential, Targets and Status of Solar Energy in India?

Potential

India is endowed with vast solar energy potential. India receives nearly 3000 hours of sunshine every year. About **5,000 trillion kWh per year** energy is incident over India's land area with most parts receiving **4-7 kWh per sq. m per day**. Solar photovoltaics power can effectively be harnessed providing huge scalability in India.

National Institute of Solar Energy has assessed India's **solar potential to be about 750 GW** assuming 3% of the waste land area to be covered by Solar PV modules.

Gujarat and Rajasthan have the highest solar energy potential.



Source: Ministry of New and Renewable Energy (MNRE)

Targets

In 2014, the Government had set an ambitious target of 175 GW of installed capacity of renewable energy. The target for **Solar Energy was set to be 100 GW by 2022**.

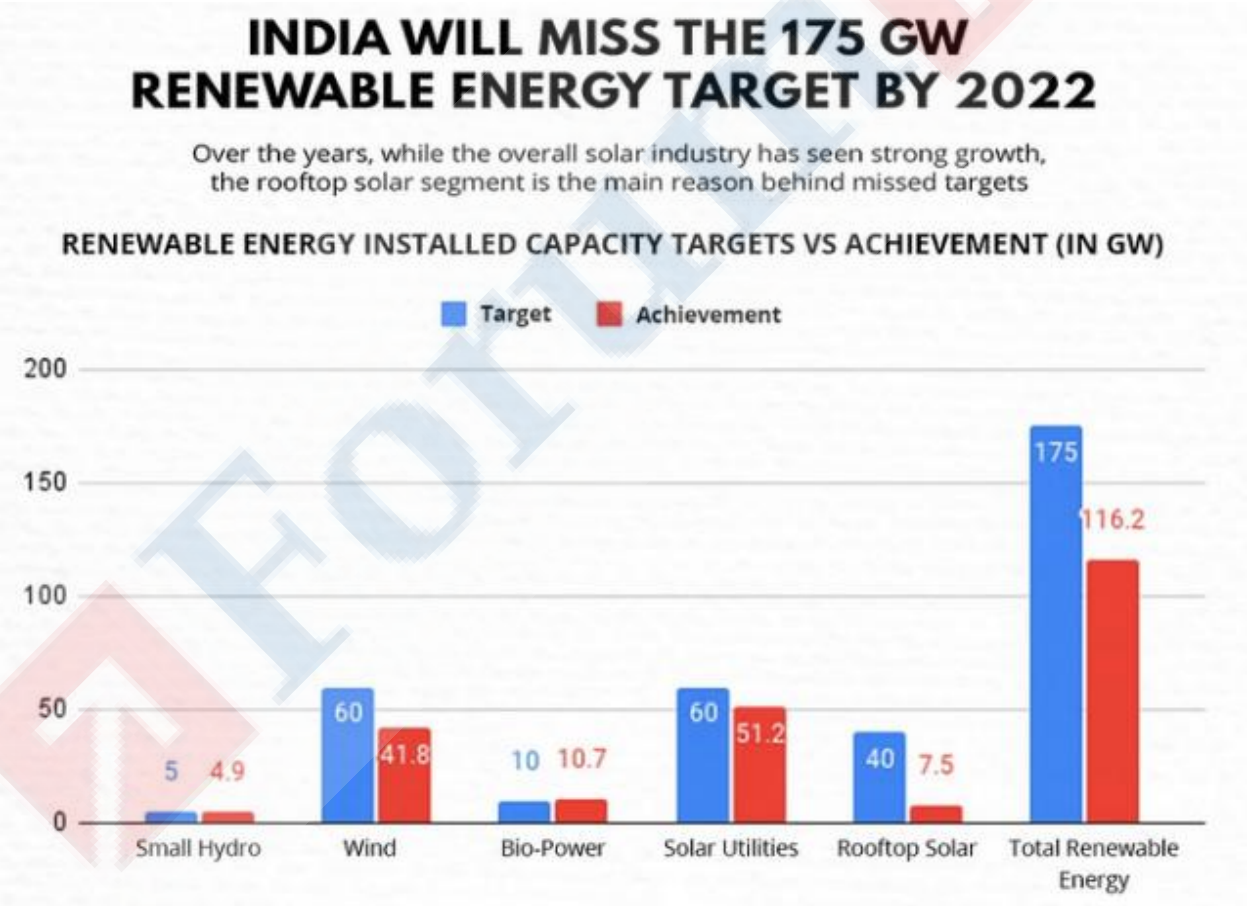
At COP26 in Glasgow (2021) India updated its Nationally Determined Contributions (NDCs). India set a target of 500 GW of non-fossil electricity capacity and half of energy from renewables. Of this, **~300 GW is expected to be contributed by Solar Energy**.

A 25-year vision document by the Government has targeted 85% of the power generation from renewable and green sources of energy. This enables India to be one of the key markets for solar energy and also a huge customer base for solar applications.

Bloomberg New Energy Finance (BNEF) estimates in its NEO 2018 report, that India will generate 75% of its electricity from renewable energy sources by 2050.

Status

India's current installed capacity stands at ~408 GW, of which renewable energy (Wind, Solar and other renewable energy) is ~118GW. This is ~67% of the 175 GW target set in 2014. In terms of Solar Energy, **the installed capacity is ~60 GW which is ~60% of the 100 GW target (2014)**. This has been a remarkable growth from just 2.6 GW of solar energy capacity in 2014.



Source: The Print

The top States in terms of **installed solar energy capacity** (March 2021) include: **Karnataka** (7.35 GW), **Rajasthan** (5.73 GW), **Tamil Nadu** (4.47 GW), **Gujarat** (4.43 GW) and **Andhra Pradesh** (4.2 GW).

What are the challenges in scaling up Solar Energy?

Higher per-unit Production Costs: Solar power costs have come down considerably but the costs of small solar power projects is higher than other sources. The Union Government is facilitating establishment of large solar parks.

Basic Challenges: Large Solar Parks face hurdles in acquiring large tracts of land. Other challenges include high transmission and distribution losses, grid integration etc. Grid integration is a challenge due to intermittent nature of solar energy and the problem of load balancing (e.g., high load during night but non-availability of solar power at night).

Environmental Issues: Establishment of large solar parks has led to conflict with the local communities and issues in bio-diversity protection e.g., in Rajasthan and Gujarat, some projects have been halted because the transmission lines encroach upon the habitat of the critically endangered Great Indian Bustard.

Slow pace of growth: Despite significant growth in the installed solar capacity, the contribution of solar energy to the country's power generation has not grown at the same pace. The capacity expansion of rooftop solar projects has particularly low (< 20% of target by October 2022).

Financial Constraints: Residential consumers and Small and Medium Enterprises (SMEs) who want to install solar rooftop projects face financial constraints as initial investments are generally high. A critical issue is an absence of innovative financing options offering higher sums at lower interest and longer durations.

Reliance on Imports for Solar Equipment: India at present lacks the capability to produce solar wafers or polysilicon. During the fiscal year 2021-22, India imported solar cells and modules worth about US$ 76.62 billion from China alone. This accounted for 78.6% of India's total imports (2021-22).

Waste Management: India's solar waste is estimated to grow to 1.8 million tonnes by 2050. However, India's e-waste rules do not mandate solar cell manufacturers to recycle or dispose of waste from this sector.

WTO Constraints: India's Domestic Content Requirement (DCR) clause has faced legal challenges at the World Trade Organisation (WTO). DCR mandates the use of both solar cells and modules manufactured domestically as per specifications and testing requirements fixed by the Ministry of New and Renewable Energy (MNRE).

What steps have been taken to enhance Solar Energy generation in India?

The MNRE launched the **Jawaharlal Nehru National Solar Mission** in 2010 to achieve 20 GW of grid connected solar power by 2022 in three phases through several steps including **Solar Park Scheme**, Central Public Sector Undertakings (CPSUs) scheme for grid connected solar PV power projects, and Viability Gap Funding (VGF). The target was revised to 100 GW in 2014-15.

The Government has also launched the ***Pradhan Mantri Kisan Urja Suraksha Uttan Mahabhiyan Yojana*** (PM-KUSUM) for grid connected agricultural solar pumps.

***Suryamitra* Skill Development Programme** by the National Institute of Solar Energy (NISE) focuses on Solar Energy project's installation, operation & maintenance.

Atal Jyoti Yojana has been launched to provide solar street lighting systems for public use.

Under the **Solar Transfiguration of India (SRISTI) Scheme**, **financial incentives** are provided to the beneficiary for installing **solar power plant rooftop projects**.

Green Energy Corridor Scheme: It is related to laying of new transmission lines and creating new sub-station capacity for evacuation (from region of production to region of consumption) of renewable power.

In 2014, the Government announced the '**Solar Parks and Ultra-Mega Solar Power Projects**' policy to facilitate the creation of large solar parks.

The Government has also provided **financial incentives** for expansion of solar energy. These include: **(a)** The Government has provided a 10-year **tax exemption** for solar energy projects; **(b) Waiver of Inter-State Transmission System (ISTS) charges** for inter-state sale of solar and wind power for projects to be commissioned by 30th June 2025; **(c)** The Ministry of New and Renewable Energy provides **30% subsidy** to most solar powered items such as solar lamps and solar heating systems. It has further extended its subsidy scheme to solar-powered cold storages; **(d)** The Government has allowed 100% Foreign Direct Investment (FDI) under the automatic route; **(e)** Government has issued orders that power shall be dispatched against Letter of Credit (LC) or advance payment to **ensure timely payment by distribution licensees to renewable energy generators**; **(f)** Government has also launched Green funds like the National Clean Energy and Environmental Fund, Green Masala Bond etc.

The Government has also undertaken initiatives for **international collaboration**. India is the founding member of the **International Solar Alliance** (ISA) which is headquartered in India. India has proposed the idea of "**One Sun, One World, One Grid**" as a means of tapping into the copious solar electricity available on a worldwide scale.

What should be done going ahead?

Manufacturing of Solar Equipment: Manufacturing of solar equipment is dominated by a handful number of countries. In order to become a world leader in solar power, India must develop the entire manufacturing value chain ecosystem to become competitive and achieve sustainable growth in the long run.

Last mile connectivity: The Government should also focus on last mile connectivity in remote areas where developing transmission infrastructure is a challenge. This can be achieved through small solar installations or solar community grids by using domestically manufactured products with small power inverters or batteries in every home. It may be helpful to ensure power for all.

Investment in New Technology: The Government should invest prudently in new and emerging solar technologies through strong financial measures that include green bonds, clean energy funds and institutional loans.

Promote R&D: There is a need to promote R&D particularly in **renewable energy storage technology** and tackle bureaucratic hurdles in implementation of such efforts.

India must also take proactive steps towards formulation of an **efficient Solar PV Waste Management and Manufacturing Standards Policy** for sustainable waste management.

Technology Diplomacy: The Government should also leverage on the Ministry of External Affairs's **New and Emerging Strategic Technologies** (NEST) Division to engage in technology diplomacy and negotiate technology governance to favour India.

Conclusion

Although the Solar Energy target set for 2022 will be missed, the Union and State Governments have done well in facilitating the capacity expansion of solar energy. The Governments should

continue to undertake policy reforms and provide financial and other incentives to the industry, so that India can enhance its climate action and fasten the pace towards Net Zero.

Syllabus: GS III, Energy; Conservation, Environmental Pollution and Degradation.

Source: The Hindu, The Hindu, MNRE, Ministry of Power

Governance of the Arctic – Explained, pointwise

Introduction

The launch and flag raising ceremony of two nuclear-powered icebreakers was held in St. Petersburg, Russia recently. At the ceremony, the Russian President said that the icebreakers were of strategic importance and would help strengthen Russia's status as a "Great Arctic Power". The melting of the Arctic Ice has increased global attention on potential commercial opportunities, research, and peace and stability in the region. The lack of proper framework for governance of Arctic has raised concerns that the gap may open a confrontational theatre. Moreover, unchecked exploitation of the resources of Arctic and the resulting consequences may have a runaway effect on global climate. This raises the need for an international cooperative framework for the governance of the Arctic.

What is the importance of Arctic Region for the World and India?

Environment, Climate Change and Scientific Research

Arctic is crucial for Global climate. Arctic ice acts as a big reflector of sunlight and **help maintain radiation balance and moderating the temperature**. Any change in the Arctic will have deep implications for the global climate. From 1971 till 2019, the Arctic snow cover and the extent of Arctic sea ice have shrunk by 21% and 43% respectively, and all regions of the Arctic experienced net loss of land ice. It will result in **global sea-level rise**, which is already getting evident.

Scientists believe that Arctic ice cover has **an impact on monsoon rainfall** as well, although the relationship has not been established with full certainty.

The Arctic and the Himalayas, though geographically distant, are interconnected and share similar concerns. The Arctic meltdown is helping the scientific community to better understand the glacial melt in the Himalayas. Himalayas have often been referred to as the 'third pole' and have the largest freshwater reserves after the North and South poles. They are also the source of main rivers of India, including the Ganga and Brahmaputra, the basins of which support a population of about 600 million and 177 million respectively and generate over 40% of India's GDP. The study of Arctic is therefore critical to Indian scientists.

Source: US Department of State

Economic and Human Resources

Mineral Resources and Hydrocarbons: Arctic region has rich deposits of coal, gypsum and diamonds and also substantial reserves of zinc, lead, placer gold and quartz. **Greenland** possesses about a quarter of world's **rare earth reserves**. A US Geological Survey (USGS) appraisal of the Arctic estimated that the region "may constitute the geographically largest unexplored prospective area for petroleum remaining on Earth" amounting to **30% of the world's undiscovered natural gas** and **13% of the world's undiscovered oil**. With the increasing ice-melt, these resources are becoming more accessible and feasible for extraction. The resources have implications for India's energy security as well.

Geopolitical and Strategic

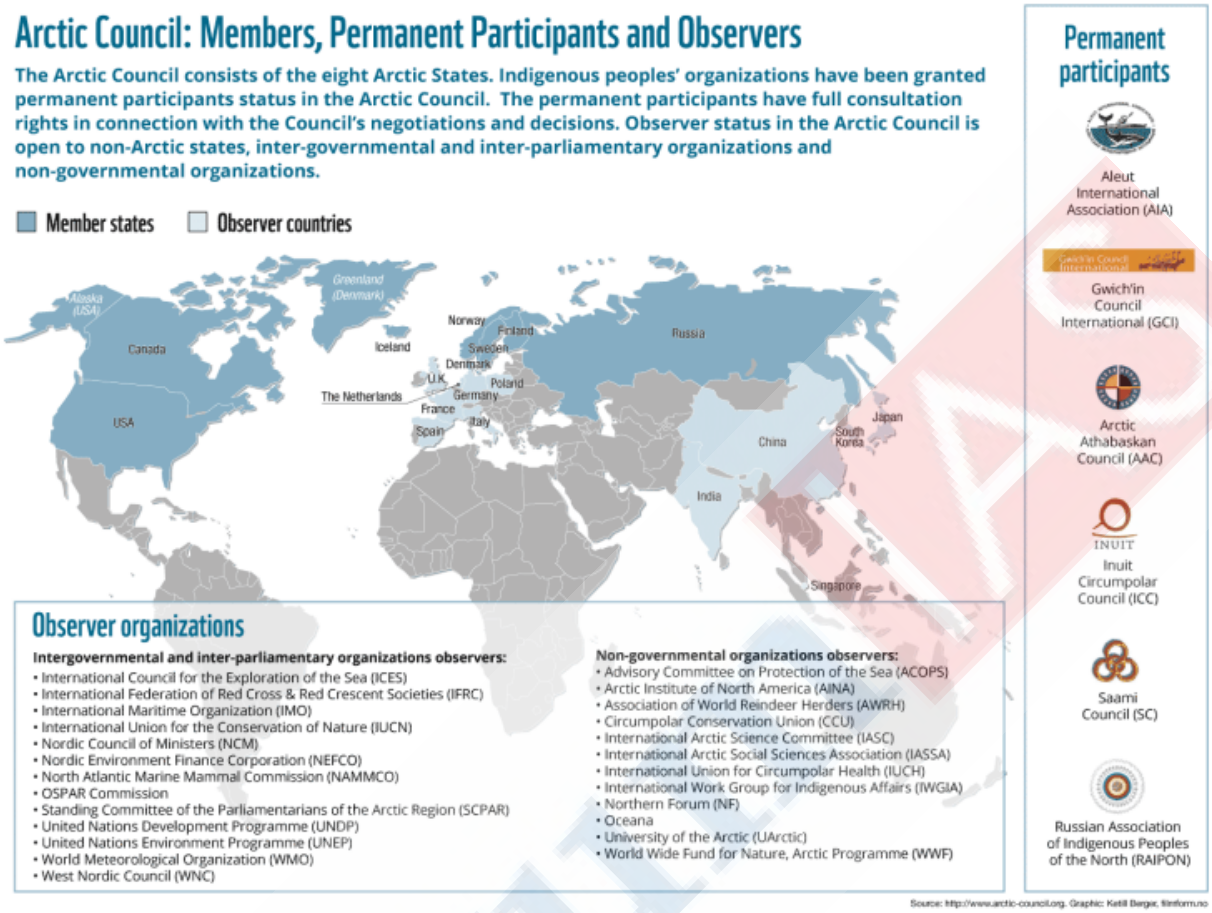
The opening of the **shipping routes** and possibilities of increased resource extraction has led to scramble for **establishing position of influence** among Russia, China, the US (and the NATO) among others. In 2018, Russia and NATO conducted Exercise Vostok and Trident Juncture respectively, their largest since the Cold War.

Apart from the strategic contestation, there are **unresolved boundaries** between the Arctic States e.g., the US has continental shelf overlap with Canada and Russia, while Russia and Canada themselves have differing continental shelf claims.

What is the current framework for Governance of the Arctic?

Unlike Antarctica, that has the **Antarctic Treaty System**, there is a lack of comprehensive overarching framework for the governance of the Arctic. There is no single governing body for the Arctic. However, there are several organizations that loosely cooperate.

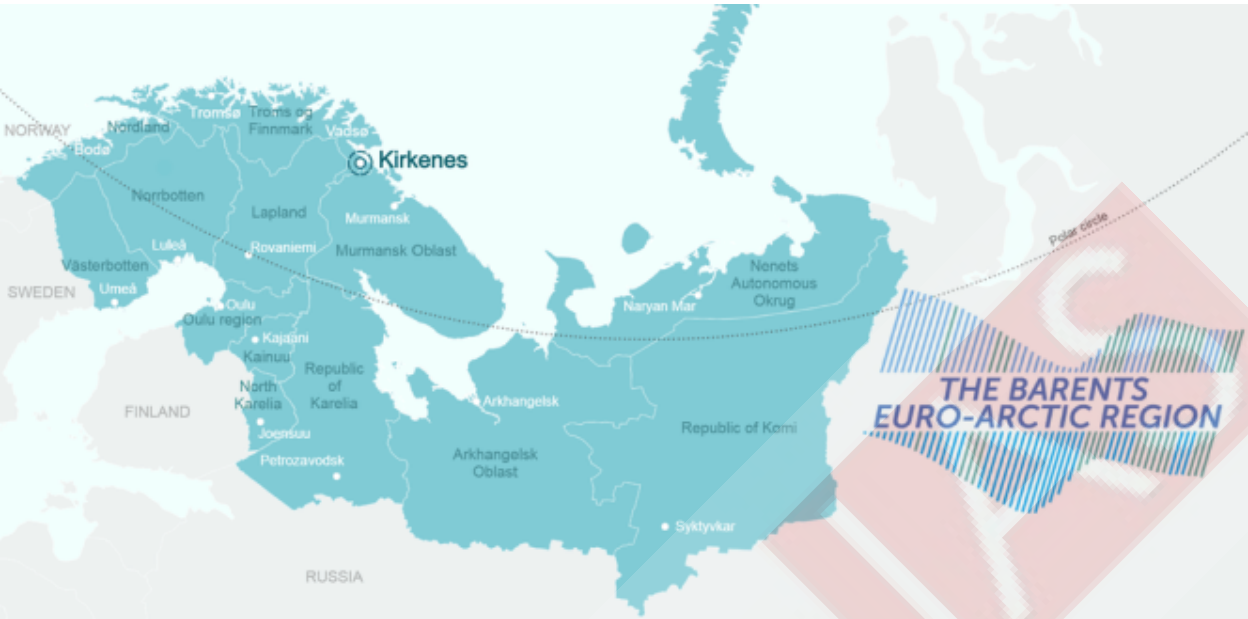
The most successful has been the **Arctic Council**, a forum of the 8 Arctic nations; Canada, Denmark, Finland, Iceland, Norway, Sweden, the Russian Federation, and the US. It was established by the **Ottawa Declaration in 1996**, and is the preeminent intergovernmental forum for addressing issues related to the Arctic Region. The Arctic Council is **not a treaty-based international organization** but rather an international forum that **operates on the basis of consensus**. It has recently signed three legally-binding agreements among Arctic States. The Arctic Council primarily deals with environmental protection and sustainable development.



Source: WWF

Other institutions and organizations associated with the Arctic include:

Barents Euro-Arctic Council (BEAC): It is a forum for intergovernmental cooperation on issues concerning the **Barents Region** and its sustainable development. The members of BEAC are **Denmark**, **Finland**, **Iceland**, **Norway**, **Russia**, **Sweden** and the **European Commission**, with Germany and 8 other countries as Observers.



Nordic Council (NC): It is the official body for formal inter-parliamentary cooperation among the Nordic countries as well as the autonomous areas of the Faroe Islands, Greenland, and the Åland islands.

Northern Forum (NF): It is an international organization composed of sub-national or regional governments from nine northern countries. The NF is a regional voice on the current Arctic agenda and an **Observer to the Arctic Council**.

Northern Dimensions (ND): It is the joint policy of 4 partners: the **European Union** (EU), **Russian Federation**, **Norway** and **Iceland**, with EU member states also participating in their national capacities. The ND aims at supporting stability, well-being and sustainable development in the region and focuses on environment, transport and logistics.

Standing Committee of Parliamentarians of the Arctic Region (SCPAR): Standing body of the biennial Conference of Parliamentarians of the Arctic Region represents the 8 Arctic countries and the European Parliament.

International Treaties Relevant to the Arctic

- The **Stockholm Convention on Persistent Organic Pollutants** and the **Minamata Convention on Mercury** deal with pollutants that reach the Arctic through atmospheric, oceanic, and terrestrial pathways and adversely affect the Arctic.
- The **UN Framework Convention on Climate Change** (UNFCCC) is the primary global mechanism for dealing with causes and effects of anthropogenic climate change.
- The threat to Arctic biodiversity is covered by the **Convention on Biological Diversity** (CBD).
- **Shipping in Arctic waters** is regulated by the **International Maritime Organization** and provisions of its **Polar Code**. Polar Code was adopted in 2014 and entered into force in 2017.
- The general law of the sea, both through the **UNCLOS** and customary international law, applies to the Arctic Ocean.

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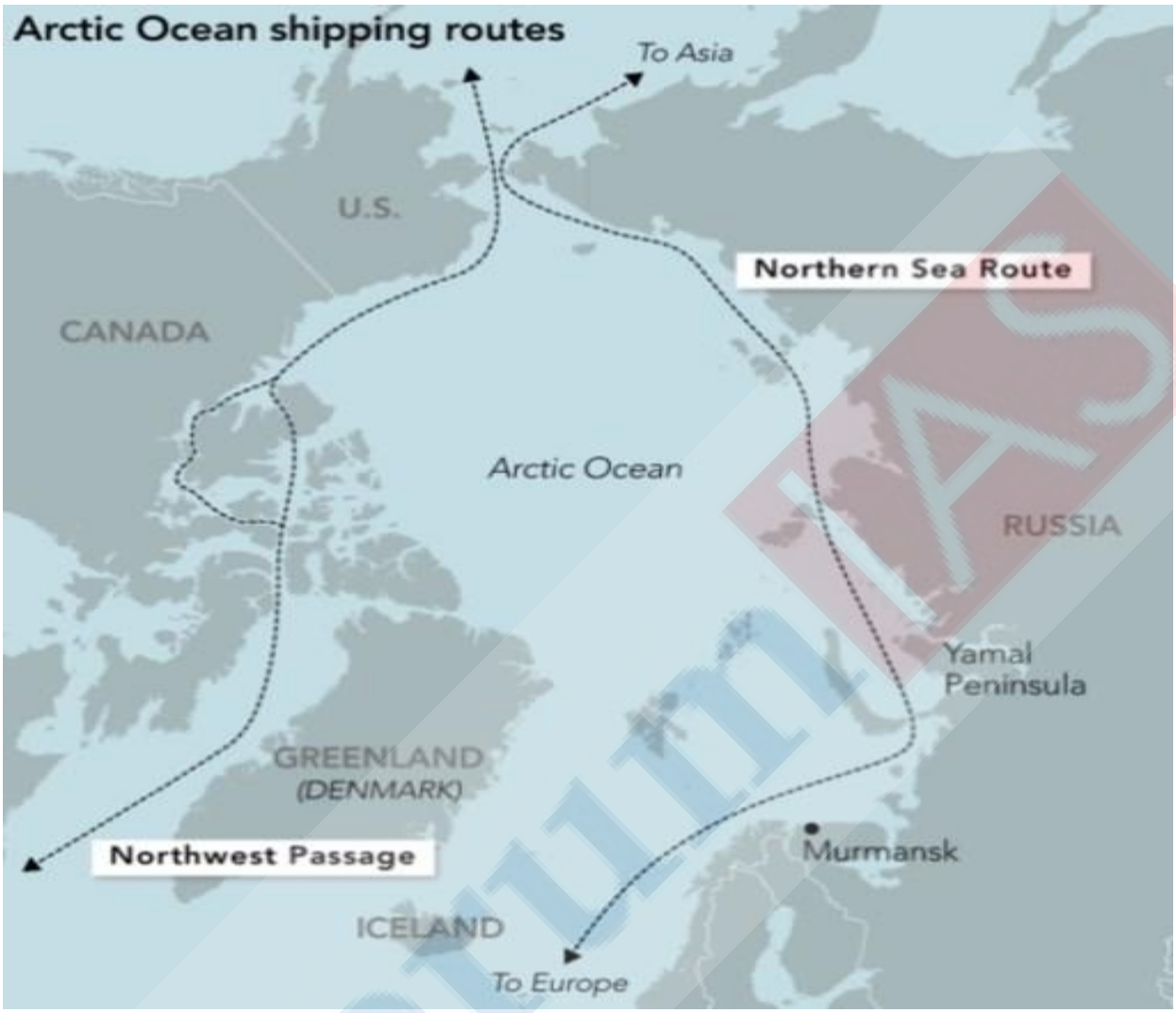
What are the challenges in Governance of the Arctic?

Not a Global Common: Arctic does not conceptually qualify as a **global commons** (much of the region's ocean falls within the recognized national jurisdictions of the Arctic coastal states). There are complex **sovereignty issues**, as the region encompasses areas and resources within and outside national jurisdictions. Therefore, it is very difficult to formulate a unified Arctic treaty system, similar to the one that exists for the Antarctica.

Militarization: The North Atlantic Treaty Organisation (NATO) has been conducting regular exercises in the region while partner countries are investing in upgrading military capabilities. There has been a rapid increase in military outposts along Russia's northern coast.

Emergence of Northern Sea Route: Northern Sea Route is emerging as a new strategic international energy corridor. Russia has demanded for **restrictive measures along the shipping route**, including that all foreign warships provide advance notice and get Russian approval prior to transit. Such measures limit international access to this sea lane and **challenge freedom-of-navigation rules** defined by the UN Convention on the Law of the Sea.



At the same time, China, which calls itself to be a **near-Arctic State**, has also announced ambitious plans for a '**Polar Silk Route**' to connect to Europe as well building massive icebreakers.

Exclusive Economic Zone (EEZ) Dispute: The global warming and predicted melting of Arctic sea ice has stimulated the discourse on extended EEZ towards the north pole in a hope of possible natural resource discoveries.

Fragmentation of Governance Mechanisms: The existence of multiple organizations makes it difficult to coordinate responses to and effectively manage national, subregional, regional, and global Arctic challenges e.g., even though UNCLOS applies to the Arctic, it does not contain provisions that determine the policies and procedures regarding Arctic scientific research and resource extraction.

What has been the India's approach towards the Arctic?

Arctic Policy: India unveiled its **Arctic Policy** ('India and the Arctic: Building a Partnership for Sustainable Development') in March 2022. The Policy has laid down **6 Pillars**: **(a)** Strengthening India's scientific research and cooperation; **(b)** Climate and environmental protection; **(c)** Economic and human development; **(d)** Transportation and connectivity; **(e)** Governance and

International Cooperation; **(f)** National capacity building in the Arctic Region. The Arctic Policy has been synchronised and adapted to Goal 11 of Sustainable Development Goals.

Global Presence: **(a)** India is also one of the 13 Observers in the Arctic Council; **(b)** India got elected to Council of the **International Arctic Science Committee** (IASC) in 2012, followed by its induction to the Council with observer status in 2013; **(c)** India is also signatory to the Svalbard Treaty that recognises the sovereignty of Norway over the Arctic archipelago of Svalbard.

Scientific Research: India has taken several initiatives for scientific research in the Arctic: **(a)** India launched its first scientific expedition to the Arctic in 2007 and set up a research station '***Himadri***'(2008) in the international Arctic research base at Ny-Ålesund in Spitsbergen, **Svalbard, Norway**; **(b)** In 2014, India deployed **IndArc** which is a **multi-sensory observatory** in Kongsfjorden, **Svalbard, Norway**; **(c)** In 2016, India set up **Gruvebadet Atmospheric Laboratory** at Ny Alesund, **Svalbard, Norway**; **(d)** Indian researchers are monitoring arctic glaciers for their mass balance and comparing them with glaciers in the Himalayan region; **(e)** India has also been actively involved in studies related to the Arctic oceanography, atmosphere, pollution and micro-biology; **(f)** Over 25 Institutes and Universities are currently involved in Arctic research in India. The **National Centre for Polar and Ocean Research** (NCPOR) in Goa (under the Ministry of Earth Sciences), is the nodal institution for India's Polar research programme; **(g)** India has successfully conducted thirteen expeditions to the Arctic so far.

What should be done going ahead?

First, There is a need for a **consensus-based decision-making process**. There is need to strengthen the existing **multi-tier Arctic governance structure** by considering the issue at global level, at regional level, and at the sub regional level. **Sustainability should be the guiding principle for cooperation**, while balancing protection and resource utilization.

Second, there is a need to establish a **comprehensive framework** governing all aspects of the Arctic region. However, a US-based think tank recommends that rather than negotiating an all encompassing treaty in one-go, the **existing institutional arrangements can be broadened to gradually cover all relevant issues**. This approach better conforms to current geopolitical realities in the Arctic and, to some extent, would avoid the potential race for dominance among existing governance mechanisms.

Third, Governance of the Arctic should be based on respect for the sovereign rights and jurisdictions of Arctic countries while taking into account the concerns of non-Arctic states and non-state actors in accordance with relevant international treaties and international law.

Fourth, All relevant parties should be encouraged to contribute capital, technology, and human resources toward fostering new models of cooperation in setting the agenda and building institutions for Arctic governance.

Fifth, Scientific research should be prioritized. Interested parties should promote joint research and data sharing. Besides conducting research on climate change trends and ecological assessments, innovation in both the natural and social sciences can be promoted by strengthening research on Arctic politics, economics, law, society, history, culture, and the management of human activities.

Conclusion

The rapid effects of climate change as well as technological innovation intensify the need for increased interaction and coordination among existing frameworks affecting the Arctic. The developments in the Arctic will have direct and indirect impacts on India's strategic interests. As India is poised to play a greater role in global geopolitics, India should push for a consensus

based approach guided by principles of sustainability to formulate a comprehensive framework for the governance of the Arctic.

Syllabus: GS II, Bilateral, regional and global groupings and agreements involving India and/or affecting India's interests; Effect of policies and politics of developed and developing countries on India's interests; Important International institutions, agencies and fora.

Source: **The Hindu**, **NewsOnAir**, **PIB**, **German Arctic Office**, **Council on Foreign Relations**, **IDSA**

The Issue of Net Neutrality – Explained, pointwise

Introduction

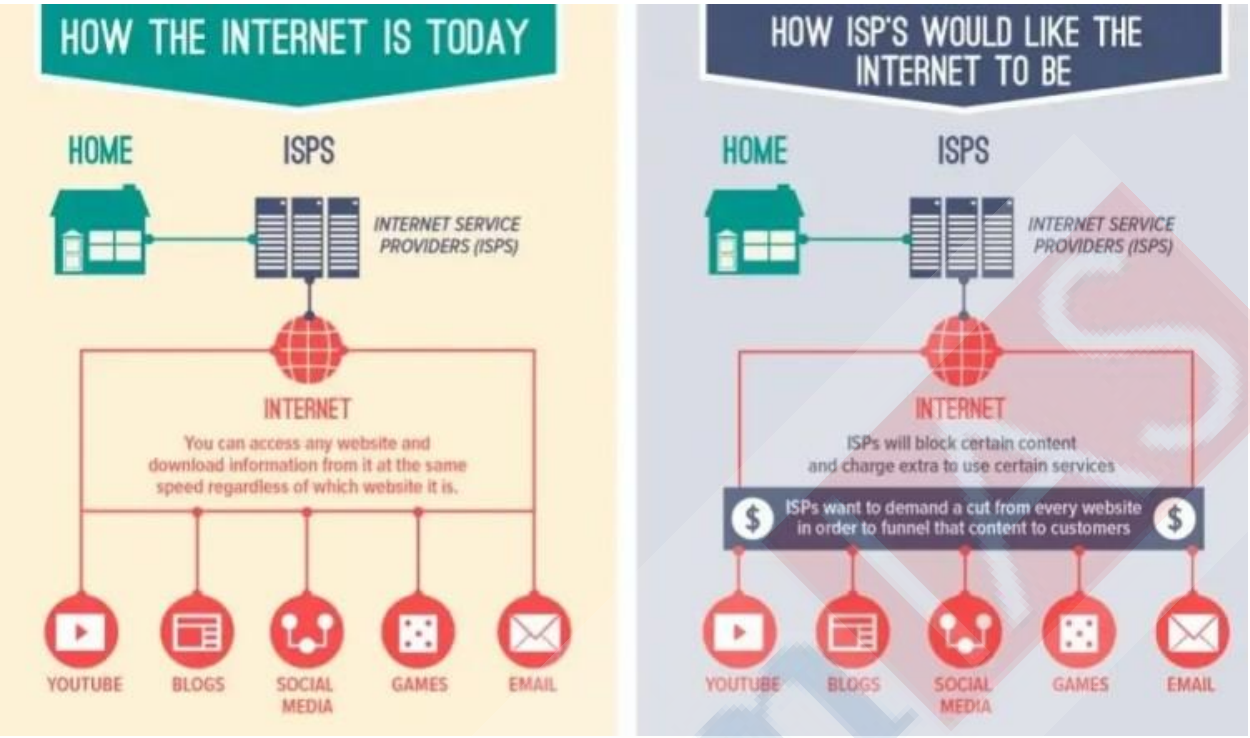
Digital Technologies have become an inseparable part of modern lives, so much so, that many essential services are now being delivered digitally. The internet has become a necessity for most day-to-day affairs. This digital ecosystem has been enabled by various stakeholders and gateways like telecom service providers, personal computers and smartphones, operating systems, App developers etc. However, when these gateways restrict access to internet/networks, they become gatekeepers and threaten net neutrality and openness of the internet. The Government has undertaken several steps to ensure Net Neutrality in India. As the digital technologies evolve further, the regulators must adopt a dynamic approach to keep the norms and regulations inline with the latest developments to ensure equitable access to internet to all.

What is the meaning of Net Neutrality?

There is no standard definition of Net Neutrality. Net Neutrality is globally understood as a network principle of **equal treatment of data packets moving across the IP networks**. The concept has been used more broadly to describe the **open and non-discriminatory access to the Internet**. Attempts have been made by many to define the contours of Net Neutrality.

The **Body of European Regulators for Electronic Communications** (BEREC) defines Net Neutrality as the principle that **all electronic communication passing through a network is treated equally**. Equal treatment means that it is treated independent of content, application, service, device, sender's address, and receiver's address. Neutrality towards the sender and receiver address implies that the treatment of data packets is independent of both users – sender and the receiver – at the edges of the network.

The term 'Net Neutrality' was coined by Professor Tim Wu. He had observed that, "*Network neutrality is best defined as a network design principle. The idea is that a maximally useful public information network aspires to treat all content, sites and platforms equally. This allows the network to carry every form of information and support every kind of application*".



Source: Wikimedia Commons

What are the benefits of Net Neutrality?

Protect Small Entrepreneurs: Net neutrality protects small entrepreneurs from unfair competition with big internet tech giants. Net Neutrality is extremely important for **small business owners and start-ups** who can launch their businesses online, advertise the products and sell them openly, without any discrimination.

Free and Democratized Internet: It will ensure open and free Internet accessible to all. It has enabled myriad of online services including e-commerce.

Equality of Consumers: It is a step promotes equality of consumer and accentuate free and open internet access.

Reduced Tariffs: Net neutrality principles have ensured that tariffs remain low and internet remains affordable in India.

Increasing Internet Penetration: Affordable tariffs have enabled internet penetration including in rural areas. This has also facilitated access to public services as well.

Employment Generation: Net neutrality has proven to be crucial in fostering digital economy. Digital economy has given rise to tremendous opportunities, both big-tech companies and numerous tech-based start-ups. It has also supported gig economy which has supported livelihood opportunities in the informal sector.

How has Net Neutrality evolved and being implemented in India?

The idea of Net Neutrality started flowing in December 2014 in India, when telecom operator Bharti Airtel decided to charge extra for making Internet calls. This led to widespread protests, which forced Airtel to roll-back its plan.

In June 2015, Department of Telecommunication (DoT) constituted a six-member committee on Net Neutrality to recommend overall policy Regulations and Technical responses.

TRAI released the **Prohibition of Discriminatory Tariffs for Data Services Regulations** in 2016.

In November 2017, TRAI recommended that the **license agreement entered into between the Government and ISPs should be amended** to clarify that **Internet Service Providers (ISPs) are not permitted to discriminate between different types of content on the Internet**, including based on factors such as the sender or receiver of the data packets, the protocols being deployed or the equipment being used.

In July 2018, the DoT released the **Regulatory framework on Net Neutrality**. The said Regulations provide for principle of non-discriminatory treatment. Through this decision, Internet service providers (ISPs) were **disallowed from indulging in any kind of discriminatory treatment of content**, including practices like blocking specific websites or speeding/ slowing down of content.

The Union Cabinet approved the final **National Digital Communications Policy, 2018**. The Policy aimed at providing 'broadband to all', and replaced the National Telecom Policy, 2012. It aims to: **(a)** Establish a strong, flexible and robust data protection regime; **(b)** Introduce appropriate disclosure and transparency requirements to **ensure compliance with Net Neutrality Principles**; **(c)** Address security issues of digital communications and develop security standards for equipment and devices; **(d)** Formulate a policy on encryption and data retention; **(e)** Develop a comprehensive plan for network preparedness, disaster response relief, restoration and reconstruction.

Even though net neutrality is advocated for and supported by TRAI's guidelines for the **Unified Access Service License**, it is not mandated. In India, there are no laws that protect net neutrality. In addition, the Information Technology Act of 2000 does not prohibit private companies from throttling their respective services.

What are the concerns with Net Neutrality?

Less Network Innovation: Network Operators have to invest in maintaining and expanding the internet's infrastructure to support new services while most benefits are reaped by Internet content companies like Google, Facebook etc. Critics say that lack of investment in infrastructure will eventually increase the costs to customers.

No free Internet access: Opponents of net neutrality contend that more vital services could be made accessible for free if the companies that draw excess bandwidth (e.g., the video streaming websites/OTTs) are charged extra for their heavy use.

Access to Objectionable Content: Offensive, dangerous, illicit and illegal content is accessible to everyone through net neutrality, and is difficult to remove. In the absence of net neutrality, Internet service providers can filter dangerous content.

Net Neutrality not necessary for Tech Evolution: Critics of Net Neutrality argue that the internet developed amazingly well even in the absence of Net Neutrality e.g., most large internet companies including Google (1998), Facebook (2004), YouTube (2005) and Twitter (2006) were started and grew to success without net neutrality regulations.

Burdensome Regulations: Net neutrality created burdensome and overreaching regulations to govern the internet e.g., Net Neutrality rules mandate extra reporting standards for ISPs to ensure compliance which adds to costs.

What should be done going ahead?

First, India's blocking rules, contain a legal obligation to maintain the confidentiality of blocking requests and any action taken under them. This apparent inconsistency between the two sets of rules can allow ISPs to indulge in unjustified interference with Internet traffic under the shield of confidentiality offered by the website blocking rules. So, there is need to bring transparency in this rules.

Read More: Need of reforming the blocking powers of Government

Second, It is important for authorities in India to create appropriate frameworks for the monitoring and enforcement of the norms. The Government must specify transparency obligations to be followed by ISPs in relation to their traffic management practices.

Third, The TRAI has recommended the **establishment of a regulatory body** to uphold Net Neutrality. This should be discussed with all stakeholders and taken forward. The body should be designed in a manner that shields it from any kind of industry capture, either by the telecom sector or large Internet-based businesses.

Conclusion

The Government has done a commendable job by formulating the Net Neutrality norms that have ensured that the content over internet remains accessible to all without any discrimination. The technology sector is evolving at a rapid pace and the Government and its agencies must remain alert to check any discriminatory practices especially by tech giants. The Competition Commission of India recently fined Google for its billing policy related to Google Playstore. This is reassuring, the same proactive should be continued to ensure that benefits of the digital economy are accessible to all.

Syllabus: GS II, Government policies and interventions for development in various sectors and issues arising out of their design and implementation; GS III, Awareness in the field of IT.

Source: **Indian Express**, **Indian Express**, **Department of Telecommunications**

COP15 of Convention on Biodiversity – Explained, pointwise

Introduction

The 15th Conference of Parties (COP15) to the UN Convention on Biological Diversity (CBD) concluded recently in Montreal, Canada. The meeting was originally scheduled to be held in 2020 but was repeatedly postponed due to COVID-19 Pandemic. The first part of the COP15 was held in hybrid mode (part online, part in-person meetings) in Kunming, China in 2021. However, due to restrictions in China due to COVID-19 led to the shift of venue to Montreal. At the end of the Conference, the **Kunming-Montreal Global Biodiversity Framework** (GBF) was adopted.

What is the Convention on Biological Diversity (CBD)?

The Convention on Biological Diversity (CBD) was the outcome of the **1992 Rio Earth Summit** (**United Nations Conference on Environment and Development** (**UNCED**))along with the **UN Framework Convention on Climate Change** (UNFCCC) and the **Convention to Combat Desertification** (CCD).

The **Convention on Biological Diversity** (CBD) came into force in December 1993. India became a party to the convention in February 1994. With 196 Parties, the CBD has near universal participation among countries.

The Convention **seeks to address all threats to biodiversity and ecosystem services**, including threats from climate change, through: **(a)** Scientific assessments; **(b)** Development of tools, incentives and processes; **(c)** Transfer of technologies and good practices; **(d)** Full and active involvement of relevant stakeholders including indigenous peoples and local communities, youth, women, NGOs, sub-national actors and the business community.

Objectives: Three main objectives of the Convention are: **(a) Conservation** of biological diversity; **(b) Sustainable use** of resources; **(c) Fair and equitable sharing of benefits** arising out of the use of these resources and associated traditional knowledge.

Protocols Under the Convention: There are two protocols under the Convention (CBD): **(a)** The **Cartagena Protocol on Biosafety** seeks to protect biodiversity from genetically modified organisms by ensuring their safe handling, transport and use; **(b)** The **Nagoya Protocol on Access and Benefit Sharing** deals with the commercial utilisation of biological and genetic resources.

Structure: The CBD's governing body is the **Conference of the Parties** (COP). It includes all nations that have ratified the treaty and it **meets every two years** to review progress, set priorities and commit to work plans. The **Secretariat** of the Convention on Biological Diversity (SCBD) is based in **Montreal**, Canada. Its main function is to assist governments in the implementation of the CBD and its programmes of work, to organise meetings, draft documents, and coordinate with other international organizations and collect and spread information. The Executive Secretary is the head of the Secretariat.

What are the outcomes of COP15?

Global Biodiversity Framework (GBF): **(a)** It contains **4 goals** and **23 targets** that need to be **achieved by 2030**. This will replace the failed **2010 Aichi Biodiversity Targets**; **(b) 2050 Vision**: The vision of the framework is a world of **living in harmony with nature** where 'By 2050, biodiversity is valued, conserved, restored and wisely used, maintaining ecosystem services, sustaining a healthy planet and delivering benefits essential for all'; **(c) 2030 Mission**: To take urgent action to halt and reverse biodiversity loss to put nature on a path to recovery for the benefit of people and planet by conserving and sustainably using biodiversity, and ensuring the fair and equitable sharing of benefits from the use of genetic resources, while providing the necessary means of implementation.

Subsidies: The COP15 agreed on reducing harmful subsidies, such as subsidies for fossil fuel production, agriculture, forestry and fisheries etc by at least US$ 500 billion per year.

Pesticides and highly hazardous chemicals: The COP15 has reached a consensus on reducing the overall risk from pesticides and highly hazardous chemicals by at least half by 2030.

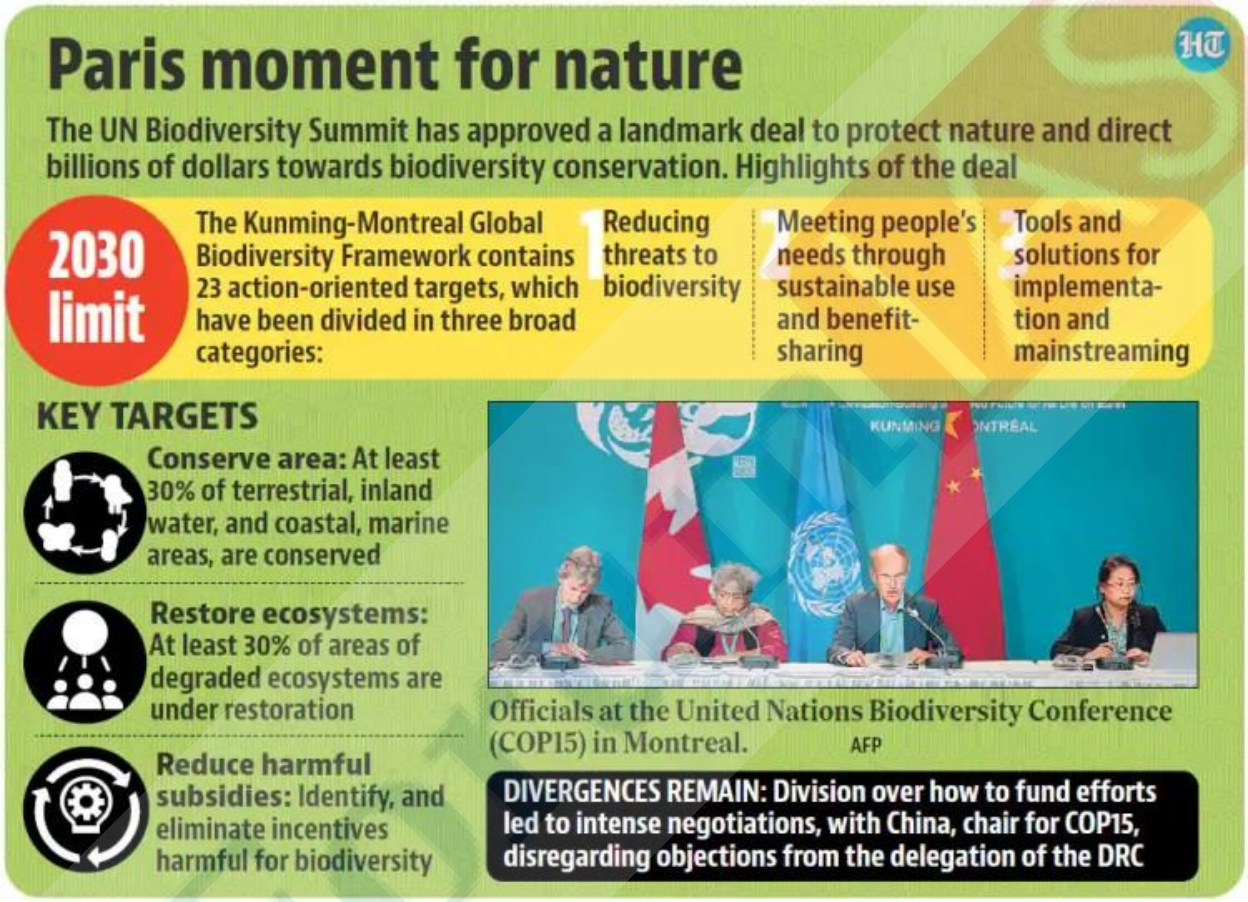
30×30 Target: The Conference agreed to a commitment to **protect at least 30% of the world's lands, oceans and coastal areas by 2030**. A related commitment is to ensure that **restoration activities** would be started on at least 30% of degraded land or marine ecosystems by 2030.

Financial Package: The GBF hopes to see at least US$ 200 billion raised per year from all sources (domestic, international, public and private), towards **implementation of the national action plans**. In terms of international funding, developing countries should get at least US$ 20 billion a year by 2025 and at least US$ 30 billion by 2030 through contributions from developed countries. The **Global Environment Facility** (GEF) has been asked to establish in 2023, and until 2030, a Special Trust Fund to support the **implementation of the GBF**.

The delegates at COP15 have agreed to establish within the GBF a **multilateral fund for the equitable sharing of benefits** between providers and users of digital sequence information on genetic resources (DSI), to be finalised at COP16 in Türkiye in 2024.

Reducing Food Wastage: A commitment has been made to reduce global food wastage by half.

Reduction in Extinction: Another goal is to ensure a ten-fold reduction in extinction rate of species.



Source: Hindustan Times

What are the challenges to protecting Biodiversity?

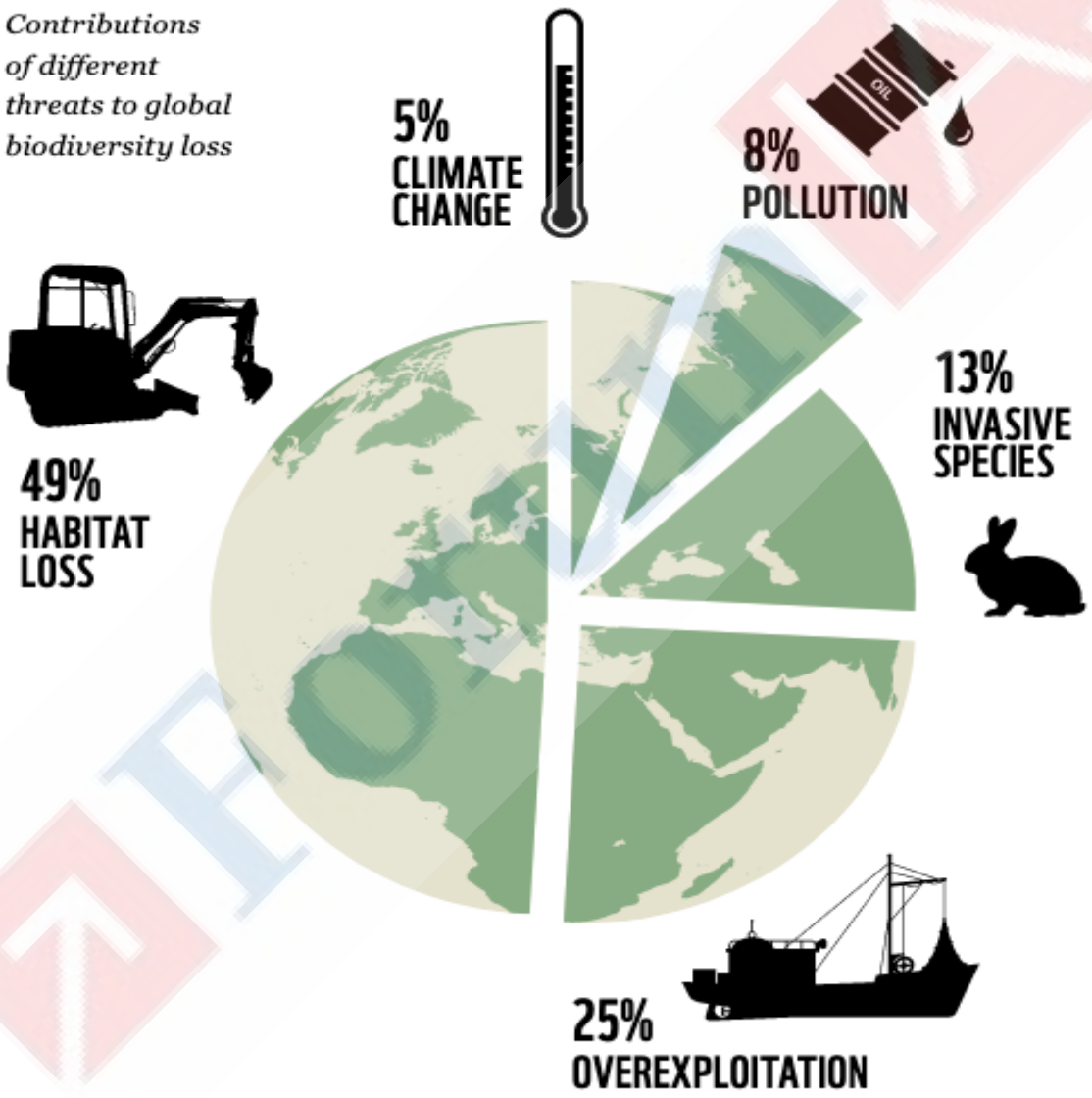
Population growth and increasing demand for biological resources: Rapid rise in population and the expanding demand from biological resources has led to over-exploitation of natural resources. Rapid deforestation especially in the Amazons (and other evergreen forest regions) is responsible for large-scale extinction of species.

Habitat Degradation: The major threats to biodiversity that result from human activity are habitat destruction, habitat fragmentation, habitat degradation, overexploitation of species for human use, introduction of exotic species, and increased spread of diseases. Most threatened species face at least two or more of these threats, speeding their way to extinction and hindering efforts to protect them.

Climate Change: Climate change is disturbing the fragile ecological balance leading to extinction of species e.g., a study has found that Australia's Great Barrier Reef has lost more than half of its corals since 1995 due to warmer seas driven by climate change.

Exotic Species: Introduction of exotic species (deliberate or inadvertent) leads to poses a threat to native species. According to the **CBD**, Invasive alien species have contributed to nearly **40% of all animal extinctions since the 17th century** for which the cause is known.

Government Policies: Government policies, in pursuit of development and without adequate safeguards, have contributed to loss of biodiversity e.g., the major reasons for deforestation in Amazons is due to exploitative policies of the Brazilian Government.



Source: WWF

What are the major concern of new global biodiversity framework?

First, The World Wide Fund for Nature (WWF) warns that the agreement's goal of reversing biodiversity loss by 2030 could be undermined if **weak language in critical areas** such as the

protection of intact ecosystems and tackling unsustainable production and consumption is not addressed at the national level.

Second, It lacks a **mandatory ratcheting mechanism** that undertakes **periodic review and upgradation** of targets. Ratchet mechanism is part of the Paris Agreement wherein NDCs (Nationally Determined Contributions) are reviewed and updated after 5 years.

Third, the Aichi Targets remain unfulfilled. In the absence of proper implementation mechanisms, the targets agreed under COP15 many end up the same way.

What should be done going ahead?

First, Protection and sustainable use of biodiversity requires the participation of all stakeholders and ministries responsible for such areas as agriculture, forestry, fisheries, energy, tourism, trade and finance.

Second, There is need to mainstream the conservation and sustainable use of biological resources across all sectors of the national economy, the society and the policy-making framework.

Third, **Integrated management of natural resources**, based on the **ecosystem approach**, is the most effective way to promote the conservation of biodiversity.

Fourth, It is essential that the all countries, especially developing countries, take necessary steps to establish good governance, including rule of law and improvement in the economic and social management capacity. This can check unregulated exploitation of biological resources.

Fifth, The **private sector must recognise that profit and protection go hand-in-hand**. The Food and Agriculture industry should shift towards sustainable production and natural means of pollination, pest control and fertilisation; the timber, chemicals, building and construction industries should account for impacts of their activities on nature in their business plans; and biotech and pharmaceutical industries should equitably share benefits fairly and equitably.

Sixth, International financial institutions and multilateral development banks should **align their portfolios with the conservation**, and sustainable use of biodiversity.

Conclusion

The outcomes of COP15 are promising and provide hope that the rapid loss of biodiversity can be reversed. Global Biodiversity Framework (GBF) is expected to act as the new guiding force for the conservation efforts in the coming decade. However, the focus now has to be on implementation and achievement of targets or else GBF will also end up like rest of the global agreements and protocols that promised a lot but delivered a little.

Syllabus: GS III, Conservation.

Source: The Times of India, Down to Earth, Indian Express, The Hindu

Gene Therapy: Approaches, Benefits and Concerns – Explained, pointwise

Introduction

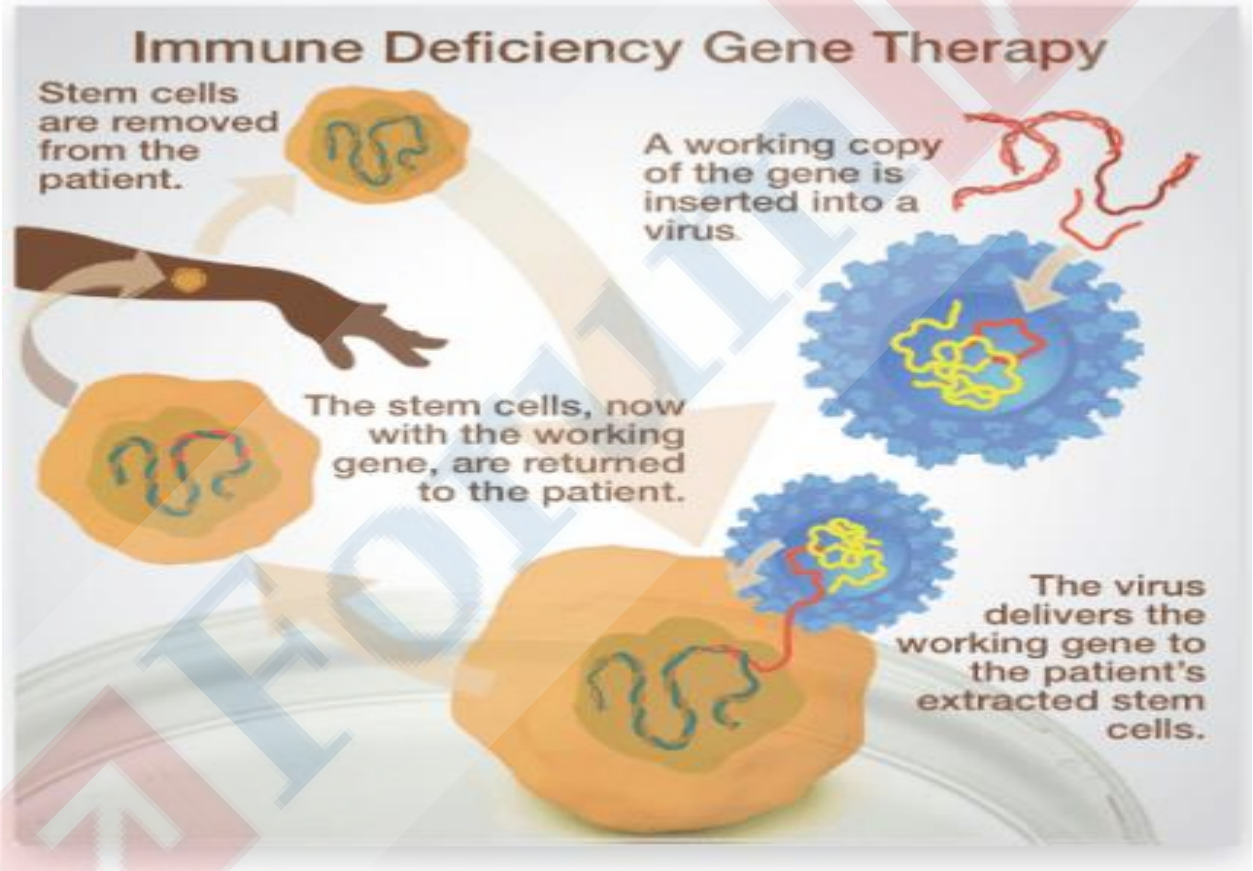
Scientists in the United Kingdom had been testing a technique of Gene Therapy on a girl suffering from a form of cancer (T-cell acute lymphoblastic leukaemia). The doctors had tried several standard treatments including chemotherapy and radiation but with limited success. The Scientists have reported some success in the treatment of the disease through Gene Therapy. Gene Therapy has the potential to revolutionize the curative care and treat diseases not treatable

by standard methods. However there are several concerns associated with Gene Therapy that must be addressed before widespread application.

What is Gene Therapy?

Gene therapy is the **introduction**, **removal** or **change in genetic material** (typically means DNA and RNA) **in the cells** of a patient **to treat an inherited or developed disease**. Gene therapy **replaces a faulty gene** or **adds a new gene** in an attempt to cure disease or improve human body's ability to fight disease.

Typically, genetic material, such as a working copy of a gene, is **transferred into the target cell**. It is difficult to insert a new gene into cells, so **a vector is used to insert the genes**. The vector is often a virus (other options are using liposomes, electroporation etc.), but the viral genes that could cause disease are removed. Once in the cell, the working copy of the gene will **help make functioning proteins** despite the presence of a faulty gene. The production of proteins helps in overcoming the defect/disease. Achieving the normal expression and function of proteins makes a big impact on the overall health of the individual.



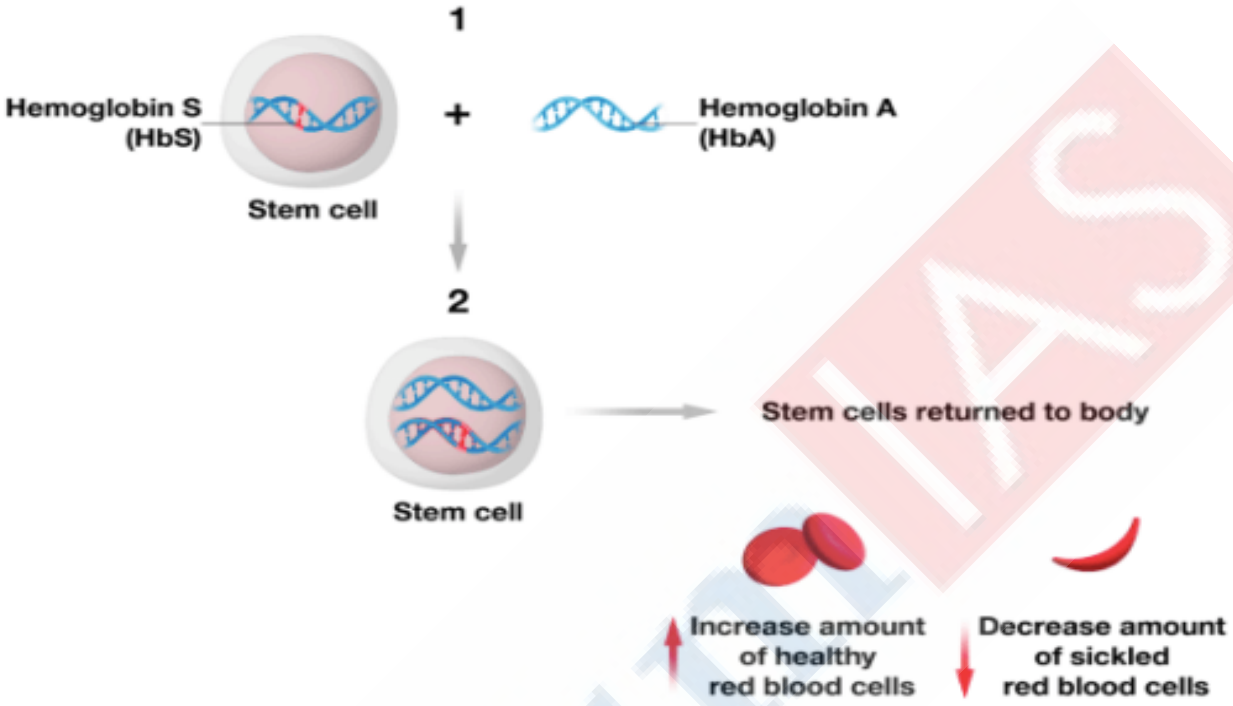
Source: University of Utah

Gene therapy holds promise for treating a wide range of diseases, such as cancer, cystic fibrosis, heart disease, diabetes, hemophilia and AIDS etc.

What are the various approaches to Gene Therapy?

Various approaches are available for Gene Therapy. For instance, for treatment of Sickle Cell disease, the approaches used are:

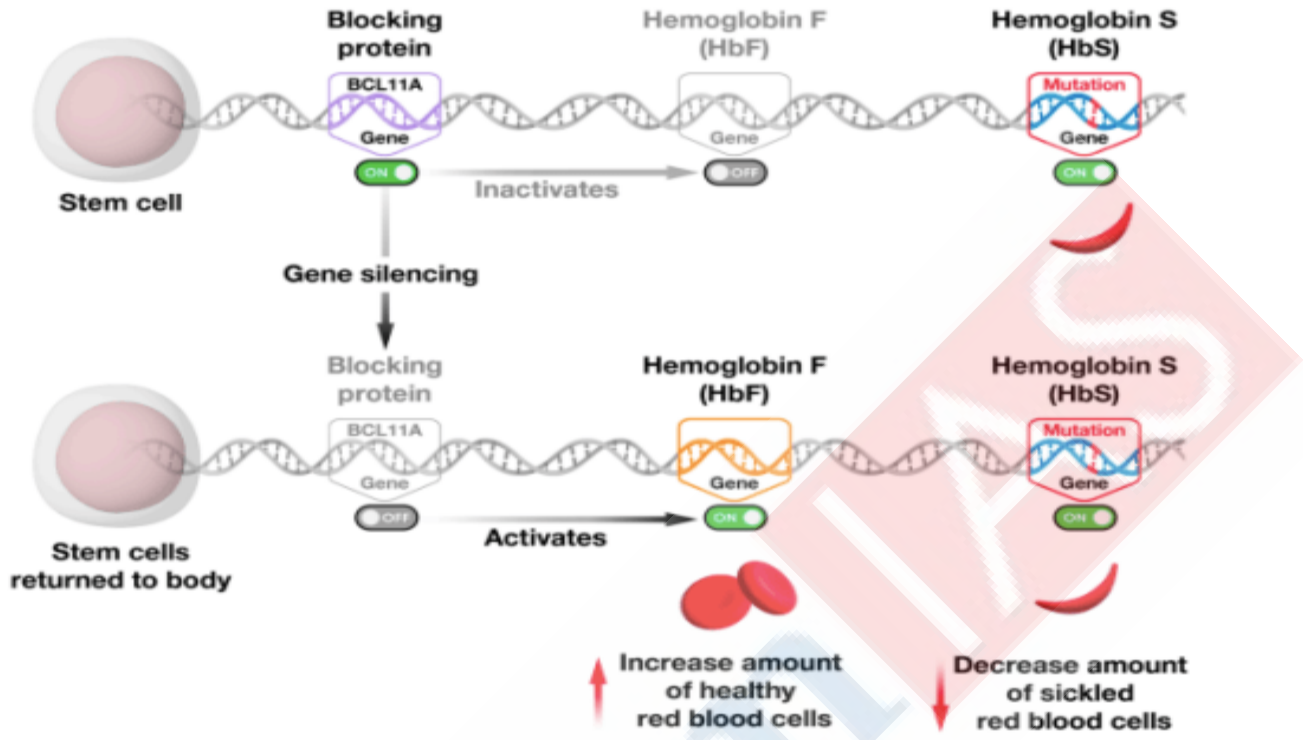
Gene Addition: The stem cells from the patient are collected and taken to a lab for modification. An extra copy of a haemoglobin A gene (missing in patient) is added to the stem cell, which allows the cells to produce haemoglobin A (non-sickling haemoglobin).



Gene Addition, Source: NHGRI.

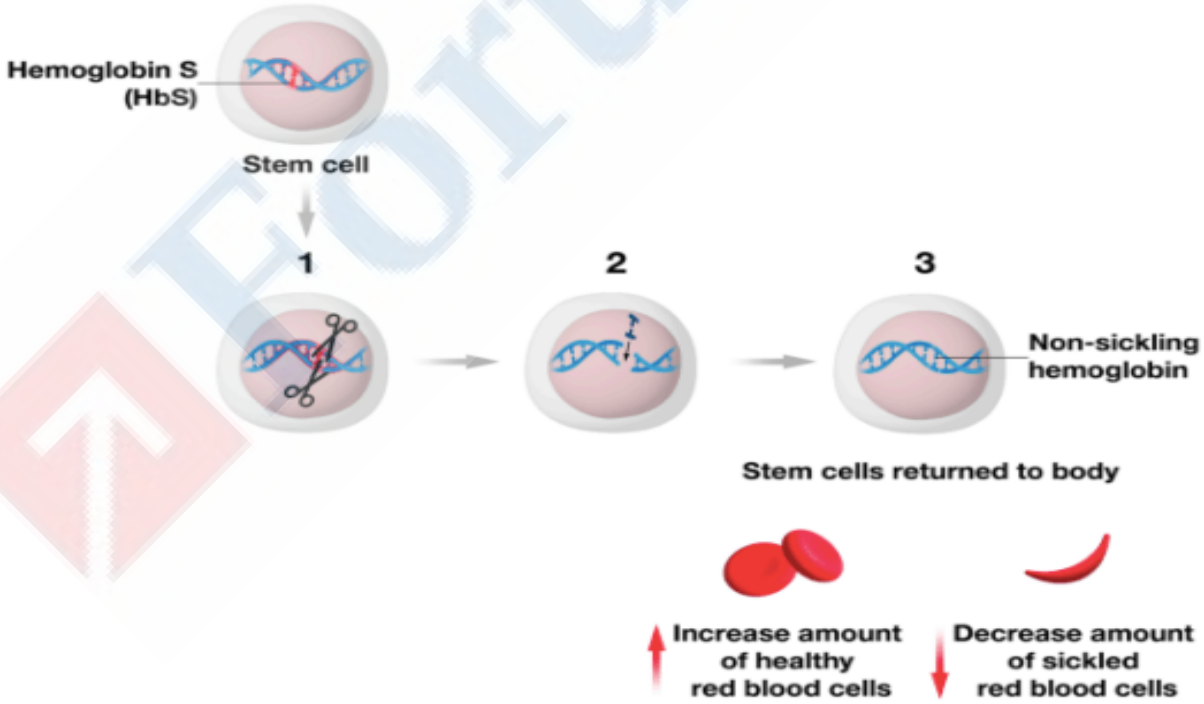
Gene Editing: The goal of gene editing is to remove, disrupt or **correct faulty elements of DNA** within the gene rather than replace the gene. Gene editing **uses systems that are highly precise** to make this change inside the cell. The cells can be from the patient or donor. There are two types of Gene Editing: **Gene Silencing** and **Gene Correction**.

Gene Silencing: In this method, the faulty segment of the gene (e.g., that inhibits the production of haemoglobin) is silenced. By silencing this gene, the correct gene (e.g., that makes haemoglobin) can be activated. Methods like CRISPR are used to silence genes.



Gene Silencing, Source: NHGRI.

Gene Correction: The variant in the gene that is faulty (e.g., that causes sickle cell disease) is corrected so that it **codes for correct function** (e.g., produce haemoglobin).



Gene Correction, Source: NHGRI.

Cell-based Gene Therapy: This type of treatment combines both Gene Therapy and Cell (Cellular) Therapy techniques. Cell therapy (CT) is **the transplantation of human cells to replace or repair damaged tissue and/or cells**. It introduces cells to the body that have a particular function to help treat a disease. **CAR T Cell Therapy** (or chimeric antigen receptor T cell therapy) is an example of cell-based gene therapy.

In cell-based gene therapy, the **cells have been genetically altered to give them the special function**. CAR T cell therapy introduces a gene to a person's T cells (a type of immune cell). This gene provides instructions for making a protein, called the chimeric antigen receptor (CAR), that attaches to cancer cells. The **modified immune cells can specifically attack cancer cells**.

RNA Therapy: It uses pieces of RNA to help treat a disorder. In many of these techniques, the pieces of RNA interact with a molecule called **messenger RNA** (mRNA). In cells, mRNA uses the information in genes to create a blueprint for making proteins. By interacting with mRNA, **these therapies influence how much protein is produced from a gene**, which can compensate for the effects of a genetic alteration. Examples of these RNA therapies include antisense oligonucleotide (ASO), **small interfering RNA** (siRNA), and **microRNA** (miRNA) therapies. An RNA therapy called RNA aptamer therapy introduces small pieces of RNA that attach directly to proteins to alter their function.

Epigenetic Therapy: It affects epigenetic changes in cells. Epigenetic changes are specific modifications (often called "tags") attached to DNA that control whether genes are turned on or off. Abnormal patterns of epigenetic modifications alter gene activity and, thus protein production. Epigenetic therapies are **used to correct epigenetic errors that underlie genetic disorders**.

What are the benefits of Gene Therapy?

Treatment of Rare Diseases: Gene and cell-base gene therapy can **help treat rare and debilitating diseases that have limited treatment options**. Often, these rare inherited diseases result in disability or premature death. Studies have shown that Gene and Cell-based Gene Therapies have slowed or completely stopped the progression of rare diseases.

Effectiveness: The advantage of gene therapy over traditional pharmacological approaches is that **therapeutic benefits of Gene Therapy remain effective for a long period of time** without the need of repeated interventions. A fundamental aspect of Gene Therapies is that they aim to treat the cause of the disease, not just the symptoms.

Accuracy: It's difficult to design specific medicines that influence specific proteins. However, with gene therapy it may be possible to design therapeutic agents that can influence any of body's roughly 20,000 genes.

What are the challenges associated with Gene Therapy?

Complexity of Gene Delivery and Activation: Success with gene therapy requires delivering a healthy gene to a very large number of cells (multiple millions) in a tissue. Moreover the delivery has to be to the right cells, in the right tissue. The **gene must be turned on once** it reaches its target in order **to produce the protein it encodes**. Also, once activated, it must stay that way; cells tend to turn off genes that are too active or display other aberrant behaviour.

It is also **crucial to prevent the gene from being introduced into the wrong cells**. It would be inefficient and **potentially harmful** to deliver a gene to the wrong tissue.

Immune Response: Human body's immune systems are designed to fight off 'intruders' such as bacteria and viruses or any foreign material. Gene-delivery vectors must be able to avoid the

body's natural surveillance system. An **unwelcome immune response to introduced genes (through vectors) could cause serious illness** or even death.

Vulnerability to Disrupt Other Cells: A good gene therapy is long-lasting. Ideally, an introduced gene will continue working for the rest of the patient's life. For this to happen, the introduced gene **must become a permanent part of the target cell's genome**, usually by **integrating, or 'stitching' itself**, into the cell's own DNA. But if the gene stitches itself into an inappropriate location, it will disrupt another genes giving rise to newer problems.

Commercial Viability: Many genetic disorders that can potentially be treated with gene therapy are extremely rare, some affecting just one person out of a million. Gene therapy could be life-saving for these patients, but the high cost of developing a treatment makes it an unappealing prospect for pharmaceutical companies.

Read More: National Policy for Rare Diseases, 2021: Provisions and Concerns – Explained, pointwise

What are the ethical concerns related to Gene Therapy?

Most ethical discussions related to genome editing center around human germline because changes made in the germline would be passed down to future generations, thus having long term implications.

Safety: Due to the possibility of off-target effects (edits in the wrong place) and mosaicism (when some cells carry the edit but others do not), **safety and unintended consequences are of primary concern**.

Informed Consent: Some people worry that it is impossible to obtain informed consent for germline therapy because **the patients affected by the edits are the embryo and future generations**. Researchers and bioethicists also worry about the possibility of obtaining truly informed consent from prospective parents **as long as the risks of germline therapy are unknown**.

Justice and Equity: As with many new technologies, there is concern that genome editing will only be **accessible to the wealthy** and will **increase existing disparities in access to health care** and other interventions. Some worry that taken to its extreme, germline editing could create classes of individuals defined by the quality of their engineered genome (**designer babies**).

Use of Embryos: Some scientists have expressed moral and religious objections to the use of human embryos for genome-editing research.

What should be the approach going ahead?

Use as Last Resort: Gene Therapy should be utilized only for rare diseases that cause serious illness/fatality, when no other treatment alternatives are available.

Monitoring: There is a need to have data on the health risks and benefits, as well as the requirement for continuous monitoring throughout clinical trials. In addition, there should be long-term surveillance in the future generations for any unintended side-effects.

Regulation and Scrutiny: Gene Therapy experiments and tests must be subjected to strict regulation and scrutiny to **keep any unethical activity** (like designer babies) **under check** and **prevent commercial misuse**. There is a need to create a multi-sector collaboration to develop an accessible mechanism for confidential reporting of concerns about possibly illegal, unregistered, unethical and unsafe human genome editing research and other activities.

IP Rights and Equitable Access: The WHO should work with all stakeholders to encourage relevant patent holders to help **ensure equitable access** to human genome editing interventions.

Engagement and Education: The UN/WHO should establish inter-agency working groups on frontier technologies that facilitates global dialogue to formulate ethical frameworks to guide their applications (of frontier technologies like human genome editing). There is a need for an inclusive dialogue on the future of human genome editing, including scientific, ethical and societal aspects.

Conclusion

Gene Therapy has a huge potential to cure rare and untreatable diseases. However, the approach to Gene Therapy requires extreme caution as it can have several long-terms unintended consequences. The field needs appropriate regulation to address the social, equity and ethical concerns. Nevertheless, these concerns should not act as roadblock to the scientific research in this field, that has huge untapped potential.

Syllabus: GS III, Science and Technology: Developments and their applications and effects in everyday life; Awareness in the fields of Bio-technology.

Source: The Hindu, National Human Genome Research Institute, National Library of Medicine

India-China Trade: Status and Concerns – Explained, pointwise

Introduction

The relationship between India and China has become strained due to the recent clashes between the Indian Army and PLA personnel in Tawang, Arunachal Pradesh. Popular sentiment has called for a more aggressive approach in dealing with China, amid calls for snapping of trade ties. Policy experts have pointed out India's persistent trade deficit with China. Even more concerning is India's dependence on China for some critical goods including pharmaceutical goods and electronics. In this context, a focused approach is required to correct the India-China Trade deficit and reduce dependence on China for critical items.

What is the status of India-China Trade?

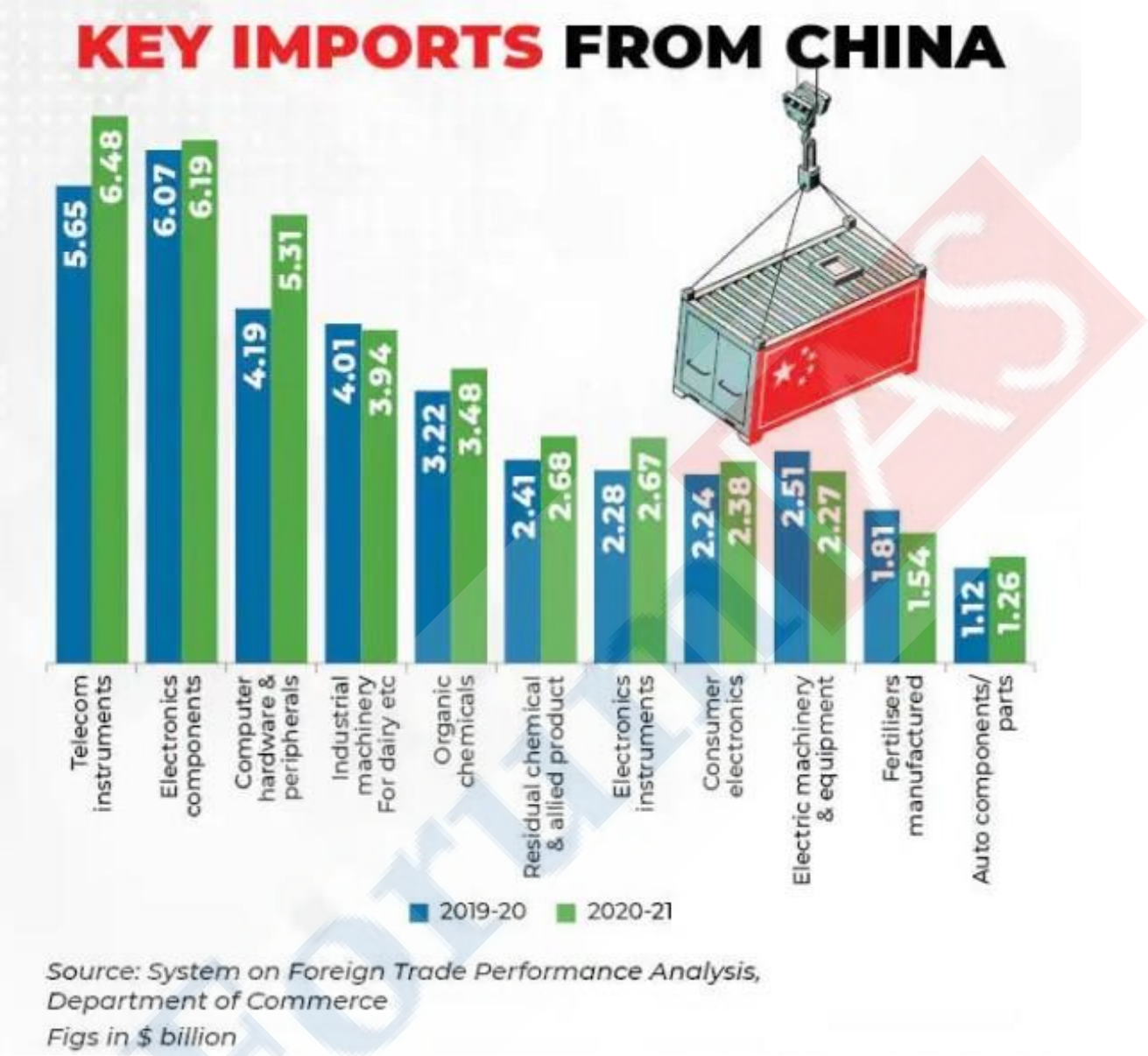
China is **India's second biggest trading partner** after the United States. In 2021-22, India-China bilateral trade stood at US$ 115.83 billion. This accounted for 11.2% of India's total merchandise trade of US$ $1,035 billion (US$ 1.03 trillion). The US was the largest trade partner with US$ 119.48 billion trade (11.5%)

Trade Deficit: In 2021-22, India had a trade deficit of US$ 73.31 billion with China. India's deficit with China was US$ 44 billion in 2020-21, thus worsening by 66% in a year. India's trade deficit with China has increased from US$ 1 billion to $73 billion in the past 21 years. In no year India had a surplus with China.

Source: MoneyControl

Two decades ago, India's imports accounted for about 60% of the total bilateral trade between two countries, but now it is over 80%.

India' Imports: During 2021-22, 42% (US$ 94.57 billion) of India's total imports (US$ 613.05 billion) came from China. Indian import basket was the personal computer (laptop, palmtop etc), which accounted for US$ 5.34 billion in 2021-22. It was followed by 'monolithic integrated circuits-digital' ($4 billion), lithium-ion ($1.1 billion), solar cells ($3 billion) and urea ($1.4 billion).



Source: MoneyControl

India's Exports: In 2021-22, India's exports to China stood at US$ 21.25 billion, which was 5% of India's total shipments (US$ 422 billion). Among the top commodities China bought from India included: Ores, slag and ash ($2.5 billion); organic chemicals ($2.38 billion), mineral fuels, mineral oils and products of their distillation, bituminous substances, mineral waxes ($1.87 billion); iron and steel ($1.4 billion); aluminum and articles of thereof ($1.2 billion); and cotton ($1.25 billion). Among single items, light Naphtha ($1.37 billion) was India's most valued export item to China during 2021-22.

Source: The Times of India

What are the reasons for high India-China Trade Deficit?

The trade deficit has risen from less than US$ 2 billion in 2001-02 to US$ 73.3 billion in 2021-22. Imports from China have risen at a much rapid pace compared to exports from India, resulting in large trade deficit.

Access: Access to Chinese markets presents a significant challenge for businesses in India. China has placed certain regulations, especially in pharma, agriculture and IT, which make it difficult for Indian goods to enter Chinese market. According to PHD Chambers of Commerce and Industry (PHDCCI), on 78 products China imposes greater tariffs on Indian goods than rest of the world. These are products on which India has competitive advantage e.g., Agricultural and raw material goods, coffee, tea, oil seeds, tobacco, man-made staple fibre, vegetable textile fibre, and wool, minerals and fuels, chemicals, fertilizers etc. among others.

Competitiveness: Chinese goods have cost competitiveness over India goods. Chinese political economy is the major factor. Policy decisions and implementation faces lesser opposition e.g., land acquisition is quick. Additionally manufacturing is provided with various incentives and subsidies. Conversely in India, there are high land acquisition costs, prolonged litigations and delays in getting permits etc.

Demand: Demand for Chinese goods is robust. China produces a very wide range of goods, from raw materials and intermediate good to final finished products. Imports from China stretch across the board — from capital goods to intermediates to raw material used in industries like electronics, organic and inorganic chemicals, medical and pharmaceutical products, fertilisers, and materials used by the leather industry.

What are the concerns associated with high India-China Trade Deficit?

Weaponisation of Trade and Security Concerns: India-China relationship is strained due to border dispute. India is dependent on China for many critical items e.g., India imports ~70-80%

of Active Pharmaceutical Ingredients (APIs) from China. APIs are used in pharmaceutical industry for manufacturing medicines. Similarly, concerns have been raised about India's rising dependence on China for lithium batteries used in Electric Vehicles (EVs). It will create future dependence on China as India undergoes mobility transition from fossil-fuel based vehicles (Internal Combustion Engines, ICEs) to EVs.

China can **'weaponise' the trade**, like Russia's decision to cut gas imports to the EU/West. China has resorted to such practices in the past, e.g., After Liu Xiaobo was awarded the Nobel Peace Prize in 2010, Chinese trade with Norway was severely reduced and did not recover until after the king of Norway visited China in October 2018. It used its monopoly of rare earths to stop their supply to Japan in 2010. Chinese curb on import of goods can severely dent Indian economy.

Economic Impacts: High trade deficit drains India's foreign exchange. Import of cheap Chinese goods limit expansion of India's domestic industry. Small manufacturers find it difficult to compete with Chinese goods and are forced to shut down.

What can be done to bridge the Trade Deficit?

Enhancing Domestic Production: **(a)** India should concentrate on production of commodities in which it has a **comparative advantage** e.g., India has a strong and competitive chemical industry, and steps should be taken to produce APIs domestically; **(b)** Focus should be on **labor-intensive industries** which will also create mass employment opportunities e.g., apparel and toys; **(c)** There are approximately 36 sub-sectors where India can reduce reliance on Chinese goods. These sectors together account for around US$ 35 billion in imports. India's domestic market has production capabilities in these sectors. Hence, dependence on China can be readily reduced without substantial additional investments.

Export Enhancement: Targeted policy approach is required to support exports. New Foreign Trade Policy has been delayed considerably and should be formulated on priority. Government should focus on **reducing tariff and non-tariff barriers** to exports (like inverted duty structure). New FTAs should be negotiated keeping in mind **India's competitive advantage**. All

stakeholders including industry bodies like FICCI, CII, ASSOCHAM etc. should be kept informed and their feedback should be taken during the negotiation phase of the FTAs.

Government Support: The Government should focus on **lowering the cost of doing business** including compliance costs, logistics cost, land acquisition costs etc. There is need to diversify source of imports and build domestic capacities. India can adopt approach of the EU and the US e.g., The EU has unveiled a $221 billion plan to wean itself off Russian oil and gas. The US Creating Helpful Incentives to Produce Semiconductors (CHIPS) and Science Act 2022 includes a $52.7 billion subsidy for domestic semiconductor production. India has pledged to spend more than US$ 26 billion on the production-linked incentive (PLI) scheme to encourage companies to 'Make in India'. Focus should be on implementation and achieving outcomes. The Government should implement the recommendations of the SCALE Committee.

Recommendations of the SCALE Committee

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

a. The Government must reduce problems in the areas such Ease of Doing Business, Market access via trade treaties, Technology and quality issues etc.

b. **Address Cost Issues**: The Government must urgently address cost issues related to **land, power and capital**.

c. **Make companies more competitive**: Address concerns around infrastructure and logistics, labour flexibility and strengthening of MSMEs. This could also help in **lowering costs for companies** and make them **more competitive** in global markets.

d. India need to push the '**China plus one strategy**' to attract investment from multinationals while positioning India as an export hub.

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Public-Private Sector Cooperation: Both the private and public sectors in India require a comprehensive strategy to deal with China. Economic experts contend that China operates as a "system" in many respects when dealing with other countries, consisting of both the government and industry. Indian businesses and the government would benefit greatly from concerted efforts to collect data and insights about the Chinese markets. This will help develop appropriate strategies for penetrative Chinese markets.

Conclusion

The persistent trade gap with China is matter of urgent concern. The Government has articulated the vision of Aatmanirbhar Bharat about making India self-reliant. Based on this vision, Government should take all possible steps to make India's manufacturing sector and domestic goods more competitive. The Government should also enhance engagement with like-minded

friendly countries like Japan, Taiwan etc. to address the India-China trade gap. This will help safeguard Indian economy from possible Chinese aggression in the future.

Syllabus: GS III, Indian Economy

Source: Indian Express, Mint, Economic Times, PHD Chamber of Commerce and Industry

[Kurukshetra December Summary] Citizen Participation and Rural Well-being – Explained, pointwise

Introduction

Enlargement of people's choices and capabilities is the cornerstone of all kinds of governance and a prerequisite for inclusive development and a nation's overall growth. India is the world's largest democracy; its democratic freedom and expression lie with **citizen participation in every sphere of public policy making**. The building block of good governance are **citizen participation** and **civic engagement**. e-Governance is the critical component of good governance.

Regarding rural development, it is essential to focus on sustainable governance, considering its contribution to national income (nearly 50%). About 70% workforce resides in rural areas. It requires better facilities, including health, education, drinking water, sanitation, housing, employment opportunities, and an overall better standard of living.

In this regard, the Government of India has taken various initiatives. More recent development focuses on **governance using digital technology and ICT** to energise rural development initiatives in **meeting the needs of the rural development sector**. Several digital initiatives have been taken, including digital-first and other ICT application services, to **improve public service delivery through improved digital connectivity**.

e-Governance and Rural Economy

e-Governance is a mechanism through which **public services are made available and accessible** to the common public at their doorstep at ease, through common services delivery outlets. It further ensures **services' efficiency**, **transparency**, and **reliability at affordable prices**.

The Government of India implemented **National e-Governance Plan in 2006**, especially for the rural areas by **providing services** including birth and death certificates, land registration, employment opportunities, market-related information, farming, and veterinary services, education etc.

It represents a paradigm shift in the **provision of essential public services**, moving from a **human to a technological interface**. Some of the popular of initiatives include **e-Panchayat**, e-Gram, and **Priasoft** (It is a centralized Accounting Software intended for use by all the three levels of Panchayati Raj namely Zilla, Block and Village Panchayat) e-District etc. These initiatives are further supported by other initiatives which are contributing significantly in the e-governance process: **e-*Choupal***, **e-*Shakti***, **TARA haat**, **e-Health**, **e-Education**, **e-*Sanjeevani***, **e-Hospital**, **e-*Pathshala***, **e-*Raktkosh***, ***Bhoomika***, ***Gyandoot***, **e-S*uvidha***, **e-NAM**, **e-*Sewa*** etc.

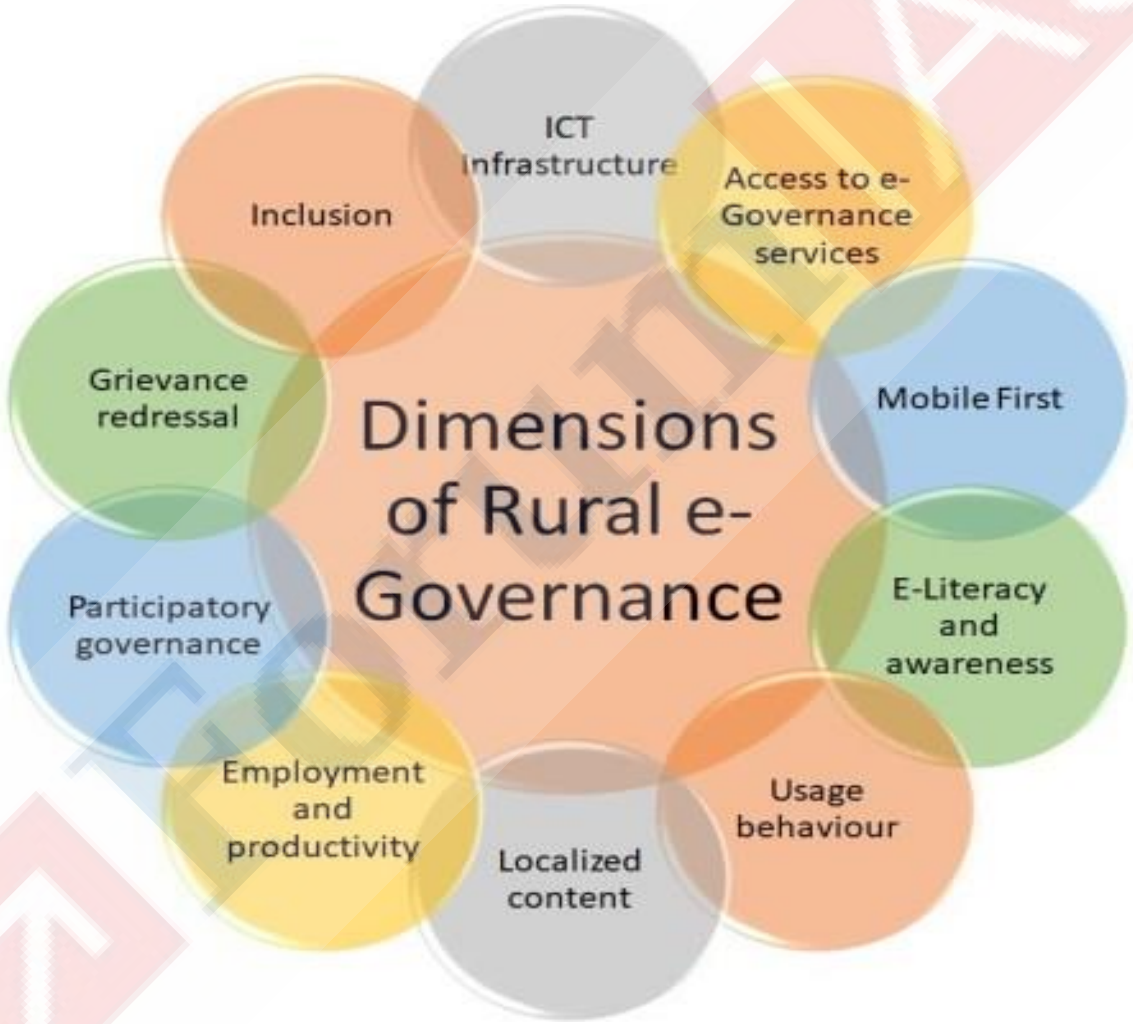
The government of India has launched an innovative platform, '**MyGov**', to **ensure citizens' engagement in the decision-making process**; citizens can share their views/opinions directly with the Prime Minister of India. The primary focus of these initiatives is to contribute to '***Surajya***' and **encourage citizens to 'discuss and do'**. It includes various projects: Clean Ganga, Green India, Job Creation, Girl Child Education, Skill Deployment, Digital India, and

Swachh Bharat, through which it is expected to bring qualitative changes in policy-making through people's participation.

Dimensions of Rural e-Governance

Rural e-governance is the core of the socio-economic development of the rural economy. The effectiveness and impact of rural e-governance is measured through various dimensions. The various dimensions of e-governance in the rural sector are: **(a)** ICT infrastructure; **(b)** Access to e-government services; **(c)** Mobile first; **(d)** e-literacy; **(e)** Usage behaviour; **(f)** Localised content; **(g)** Employment and productivity; **(h)** Participatory governance **(i)** Grievance redressal; **(j)** Inclusion.

Over all, these dimensions are required to be strengthened and rebooted to get the best outcome and optimisation of public policy, designed for developing the rural economy.



Source: National Informatics Centre

e-Governance and Citizen Participation

The success of any governance is based on citizen participation and engagement. India is a country of diversity in language, culture and livelihood patterns which vary from region to region. Designing any program should be able to address all the issues/needs and expectations of people in those areas. To enhance e-governance projects' efficiency, **understanding of social-cultural**

factors and people's expectation is essential. To design a suitable governance initiative in rural areas, **diverse needs and people's capabilities** should be considered during the policy formulation. Hence, there is a need to design customised e-governance initiatives.

In the process of reform and formulation of governance, **citizen involvement and their feedback are essential**. The ultimate process is to empower people by **making them part of citizen governance**.

Citizen Governance and **Civic Engagement** are two important pillars in strengthening valued-citizen participation. Citizen governance is a valued-based proposition, helps in removing gaps and difference between governments and citizens. On the other hand, **civic engagement involves active participation and collaboration** among individuals, institutions, communities and government and helps in shaping public policy. It opens up the window for citizens to participate and take an interest in public affairs and public policy meetings.

Citizen Participation and Governance

Citizen participation is essential in all public policy-making, especially in e-governance, designed for rural areas. Citizen participation has a significant role in shaping and **transforming 'governance into good governance'**, which is the need of the hour.

Citizen as a Customer: Citizen is considered as a valued customer as public services are meant for public use. Hence as a consumer, citizen participation and their feedback is very essential in designing public services and ensuring quality service delivery at an affordable cost.

Citizen as an Owner: In a democratic set-up, citizens are the real owners of public services. They are **considered as investors in public services** as they contribute through taxes etc. As an owner, citizen involvement is essential, and she must seek information about public services and delivery.

Citizen as a Co-producer: Citizens are often asked to play the role of co-producer in providing public services. Citizens are expected to act as a partner; hence their involvement and participation will improve the quality and timely delivery of services.

Citizen as a Quality Evaluator: Being the co-producer and consumer, the citizen can become the evaluator of the public services quality and their delivery effectiveness. Thereby she can help the government in designing better e-governance facilities and suitable public policy.

Citizen Participation and Framework

A customised framework should be carefully planned to ensure meaningful engagement with citizens. **All stakeholders must be able to voice their contributions and concerns**. A suitable feedback mechanism must be in place to close the deficiencies and leakages.

The key components needed to enable successful and meaningful citizen involvement in e-governance projects are: **(a)** Need analysis; **(b)** Degree of engagement; **(c)** Creation of engagement team; **(d)** Engagement activities; **(e)** Analysis of outcome; **(f)** Feedback analysis; **(g)** Institutionalisation of engagement.

Citizen participation can be viewed from three different perspectives; firstly, at what stages there is a need for participation; secondly, at what levels and thirdly, what are the tools through which participation can become more meaningful and effective.

To appreciate the value and nature of participation in the governance process, understanding the 'propose and techniques' of people's participation is vital. Public participation spectrum includes:

Table 2: Citizen Participation & Engagement Spectrum

No.	Purposes	Tools & Techniques
1	Inform	Mass Media, Print, TV, Radio, Citizen Charters, Bulletins Boards, Newsletters, Social Media, Websites & Portals, and Face-to-Face Meetings
2	Consult	Focus Groups, Surveys, Expert Panels, Delphi Methods, Open Meetings, Debate & Discussion
3	Involve	Citizen Outreach, Workshops, Qualitative Interview
4	Collaborate	Social Networking, Crowd Sourcing, Participatory Planning
5	Empower	Stakeholder's Dialogue, Participatory Learning & Actions, Matrix Scoring Ranking

Source: Kurukshetra December 2022

Benefits of Citizen Participation

Citizen participation ranges from just information receiving/sharing to being highly responsible in managing the process with accountability. The higher is the citizen participation, the better is the governance and its effect on the socioeconomic outcome and well-being.

First, Citizen participation helps in the **smooth formulation and implementation of public policy**. It helps in transparency and makes citizens more accountable and responsible.

Second, Citizen participation in e-governance will **enhance the projects' efficiency and efficacy**.

Third, It develops a **sense of belongingness and upholds ownership**. Engaging the public in creating policy directly impact them is one method to **assure accountability**.

Fourth, Participation and contribution of various stakeholders, individuals, communities, political parties, and government agencies will **reduce the conflicts** and confusion and make it more coherent. Thereby, it will become more people-driven, participatory, and meaningful.

Fifth, It helps in bringing more **inclusiveness** and **positive outcomes**.

Sixth, It helps in improving the political positioning of marginalised and vulnerable groups, those are often neglected or not taken into consideration.

Seventh, It helps in developing long-term sustainable e-governance and **outcome-focused initiatives**.

Eighth, It helps in **community empowerment**, leading to **better awareness** and **superior monitoring**.

Way Forward

e-Governance initiatives have a transformational impact on providing public services. Their deliveries to the mass are especially effective in rural India. It is a key enabler in the realisation of government mandate. It is expected that outcome of e-governance will be optimised through active citizen participation. **The vision to transform India into a digitally empowered society and knowledge economy can be accomplished only through citizen participation and engagement**. The collaborative approach of policy-making emphasises more on citizen participation and ownership of actions. This is necessary to reduce socio-economic stress, minimise deprivation, and help overall development. A variety of services can be delivered in rural areas with collaborations with all the stakeholders, with maximum citizen participation.

Syllabus: GS II, Important aspects of governance, transparency and accountability, e-Governance: applications, models, successes, limitations, and potential.

Source: Kurukshetra December 2022, **National Informatics Centre**

Bilateral Investment Treaties (BITs): India's Approach and Concerns – Explained, pointwise

Introduction

India is negotiating Free Trade Agreements (FTAs) with several trading partners. The European Union (EU) is also negotiating an Investment Protection Agreement (IPA) along with the negotiations for an India-EU FTA. The IPA will contain investment protection standards and an independent mechanism to settle disputes between investors and the Government under international law. Over the past decade, several Multi-National Corporations (MNCs) have been involved in investment disputes with the Government of India including Cairn Energy, Vodafone and White Industries among others. They had invoked proceedings under Bilateral Investment Treaty Agreements (BITAs) India had signed with trading partner nations. To avoid such proceedings, the Government had amended the text of Model Bilateral Investment Treaty (Model BIT) in 2015 and renegotiated its Agreements with trading partners. However, experts have pointed out several concerns with the provisions of India's Model BIT which may have an impact on India's FTA negotiations and foreign investments in India.

What is a Bilateral Investment Treaty Agreement (BIT/BITA)?

Bilateral Investment Treaties (BITs) are reciprocal agreements between two countries to **promote and protect foreign private investments** in each other's territories. The Agreements establish minimum guarantees between the two countries regarding the **treatment of foreign investments**, and protect them from arbitrary decisions of national Governments. BITs typically have provisions like **National treatment** (treating foreign investors at par with domestic companies), **Fair and equitable treatment** (in accordance with international law), and **Protection from expropriation** (limiting each country's ability to take over foreign investments in its territory) etc. among others.

India's BITs

The Government had released the first **Model BIT text in 1993**. Under this model, India signed its first Bilateral Investment Treaty (BIT) with the United Kingdom in 1994. The Government had released **Model Bilateral Investment Promotion Agreement (BIPA) in 2003**. As of **2015**, India had **signed BITs with 83 countries (of which 74 were in force)**.

The BITs were invoked by several MNCs in context of their disputes regarding sovereign actions of the Government of India. In 2011, an International Chamber of Commerce (ICC) Tribunal **ordered the Government of India to pay US$ 4.10 million to White Industries** under the 1999 Indo-Australia BIT. The Government also received notices under various BITs concerning **retrospective tax amendments** and the **cancellation of 2G licenses**. Post these developments, the Government initiated a review of its existing bilateral investment treaties (BITs).

In 2015, India started drafting a new model BIT to replace the existing model BIT (1993) and BIPA (2003). In 2016, the model BIT was completed and released to the public domain.

Since the release of the model BIT in 2016, **India has signed only four BITs** with Belarus, Kyrgyzstan, Taiwan, and Brazil. The Government is negotiating with 37 countries/blocks, and has **terminated its older BITs with 77 countries** (i.e., older BITs with only 6 countries are in force).

What are the benefits of Bilateral Investment Treaties (BITs)?

First, BITs provide security against arbitrary actions of sovereign Governments. This enhances confidence of investors. Thus **BITs have a potential to attract Foreign Direct Investment (FDI)**.

Second, BITs generally provide a **mechanism for settling disputes** between investors and the country of investments. The most preferred mode of settling such disputes is **arbitration**, where parties agree to have their dispute decided by a neutral person (the arbitrator) instead of going to Court.

Third, BITs encourage the **adoption of market-oriented domestic policies** that treat private investment in an open, transparent, and non-discriminatory manner.

Fourth, BITs support the development of international law standards consistent with the objectives of trade and investment promotion.

What are the issues with India's Approach to Bilateral Investment Treaties (BITs)?

First, the review of the then existing Model BIT texts and the formulation of the Model BIT of 2016 was a knee-jerk reaction to the White Industries case, instead of an initiative to promote foreign investment.

Second, the Model BIT of 2016 has a very narrow definition of 'investment' and creates high thresholds for what can be considered as breach. There are several 'vague' phrases. The definition of investment is full of vague terms like 'certain duration' and 'investment…operated in good faith'. There are uncertainties related to how long is the duration of investment or what constitutes good faith. Such ambiguities in the text and the lowering of protection standards may act as a deterrent to foreign investment.

Third, the Model BIT has **omitted the well-recognized doctrines of 'fair and equitable treatment' standard and Most-Favored Nation** (MFN) etc. It sends a wrong signal to the investors creating fears that their investments might not be safe in India.

Fourth, The Model BIT insists that investor must exhaust domestic remedies (for at least 5 years) before commencing arbitration under the BIT. This will entangle the investors in prolonged disputes given pendency and slow dispensation of justice in India.

Fifth, Indian companies investing abroad will also have similar limitations on protections and be subjected to the local judicial bottlenecks.

Sixth, BITs signed prior to 2015 were asymmetric in the sense that they didn't impose much obligations on foreign investors. Model BIT of 2016 partially addresses this asymmetry by requiring the requiring the investors to **voluntarily adopt corporate social responsibility principles** addressing issues like labour, environment, human rights, community relations and anti-corruption. However, the provision falls under the 'best endeavour clause', which means that they are enforceable. Absence of mandatory obligations means that Government can't press counter-claims on foreign investor on grounds that the investor has violated local law, human rights obligations, environmental obligations etc.

What corrective steps should be taken?

The **Parliamentary Standing Committee on External Affairs** had reviewed India's Model BIT 2016 and BIT Agreements with other nations and submitted its report ('India and Bilateral Investment Treaties') in September 2021. It has made several noteworthy recommendations.

First, It recommended timely settlement of investment disputes through pre-arbitration consultation or negotiations.

Second, the Committee has observed that there is scope of improvement in the Model BIT (2016). New Model of BIT should: **(a)** Be suitably amended in light of new experience gained in disputes arising out of BITs; **(b)** Be reviewed continuously to ensure that it is balanced and comprehensive; **(c)** Incorporate **best practices** and provisions from BITs adopted by advanced countries after studying in detail the implementation and outcome of such treaties.

Third, New BITs should be **drafted without any ambiguity**, so as to avoid: **(a)** Overbroad interpretation by arbitrators and tribunals; **(b)** Investment disputes or claims against India; **(c)** The abuse of certain provisions by investors.

Fourth, The report calls for **developing local expertise**. It recommended developing panels of domestic lawyers (and law firms) with: **(a)** The **requisite expertise in investment arbitration** to represent India; **(b)** Experience in investment treaty law to ensure good drafting of BITs. It also recommended **training government officials in the field of investment treaties**, and promoting the **New Delhi International Arbitration Centre** as a world-class arbitration centre.

The UN Bodies have also made some recommendations in this regard.

First, The **UNCITRAL Working Group III on ISDS** (Investor-State Dispute Settlement) reforms has suggested that **including binding investor obligations** in the BITs would provide host Governments with a legal basis to raise counter-claims. This would remove the uncertainties and arbitral discretion.

Second, The UN Working Group on human rights, transnational corporations and other businesses, stresses the need to include **binding and enforceable investor obligations concerning human rights and environment**.

In addition, several other steps can be taken.

First, the Government should focus on reforming domestic judicial system. While a few steps have been taken in the right direction through the **Commercial Courts Act, 2015** and the amendments to the **Arbitration and Conciliation Act, 1996**, there are a number of administrative and substantive aspects that need a complete overhaul.

Second, The model BIT and the domestic legislation should be aligned to ensure a consistency in commitments as well as the dispute resolution processes.

Conclusion

The Government is in pursuit to make India a US$ 5 trillion economy by 2025 and a developed nation by 2047. Robust international trade and stable investments will be a vital factor in the success of this pursuit. The Government has pursued the negotiations of FTAs with a renewed vigour. This must be complemented by review and suitable corrections to the approach to Bilateral Investment Treaties (BITs). BITs remain a critical lever in attracting long term and consistent foreign investment. This will help in achieving multi-fold increase in trade and investments, paving way for rapid growth of the Indian economy.

Syllabus: GS II, Effect of policies and politics of developed and developing countries on India's interests; Bilateral agreements involving India and/or affecting India's interests; GS III, Indian Economy and issues related to growth;

Source: **Indian Express**, **PRS**, **The Diplomat**

Nasal Vaccine for COVID-19: Working and Benefits – Explained, pointwise

Introduction

India's first nasal vaccine for COVID-19, iNCOVACC, will be available as a booster dose for persons above 18 years of age. The nasal vaccine will be delivered through the nose. Those individuals who have already received a heterologous booster dose of either Covishield or Covaxin can now receive the nasal vaccine. The vaccine has been developed by the Bharat Biotech, the makers of Covaxin, in collaboration with Washington University at St Louis, US. The nasal vaccine is a **recombinant replication-deficient adenovirus vectored vaccine** with a pre-fusion stabilized spike protein. The vaccine has been approved by the Central Drugs Standard Control Organisation. The nasal vaccine for COVID-19 will further strengthen the level of preparations to fight the possible rise in infections in India, given the surge in COVID-19 cases in China.

How does the immune system fight pathogens?

The immune system has **two distinct components**: **Mucosal** and **Circulatory**.

The Mucosal Immune System provides **protection at the mucosal surfaces of the body**. These include the **mouth**, **eyes**, **middle ear**, the **mammary and other glands**, and the **gastrointestinal**, **respiratory** and **urogenital tracts**.

Sticky secretions cover these mucosal surfaces. Various **Antibodies** and **anti-microbial proteins** are present in these secretions. **Immune Cells** are also located in the **lining of these surfaces**. Together they attack the invading pathogens.

The **Circulatory Immune System** generates antibodies and immune cells that are **delivered through the bloodstream** to the internal tissues and organs. These circulating antibodies do not usually reach the mucosal surfaces in large enough amounts to be effective.

The **Mucosal and Circulatory compartments of the immune system are largely separate and independent**.

What are the key players in Mucosal Immunity?

Proteins known as **Antibodies** or **Immunoglobulins** are the most well-known immune components. Antibodies are produced by the immune system in **response to invading agents** that the body recognises as 'non-self' (or foreign) such as viruses and bacteria.

Antibodies bind to specific antigens. **Antigen is a substance that enters the body and starts a process that can cause disease**. The presence of antigens in the body generally triggers an

immune response. Antibodies that bind to antigens can **either inactivate them**, as they do with toxins and viruses, or **kill bacteria with the help of other immune proteins or cells**.

The Mucosal Immune System generates a **specialized form of antibody called Secretory IgA**, or **SIgA**. SIgA is **located in mucosal secretions**, such as **saliva**, **tears**, **nasal** and **intestinal secretions**, and **breast milk**. It is **resistant to digestive enzymes** that readily destroy other forms of antibodies. It is also **superior to most other immunoglobulins** at neutralizing viruses and toxins, and at preventing bacteria from attaching to and invading the cells lining the surfaces of organs.

There are also many other key players in the mucosal immune system, including different types of **anti-microbial proteins** that kill pathogens, as well as **immune cells** that generate antibody responses.

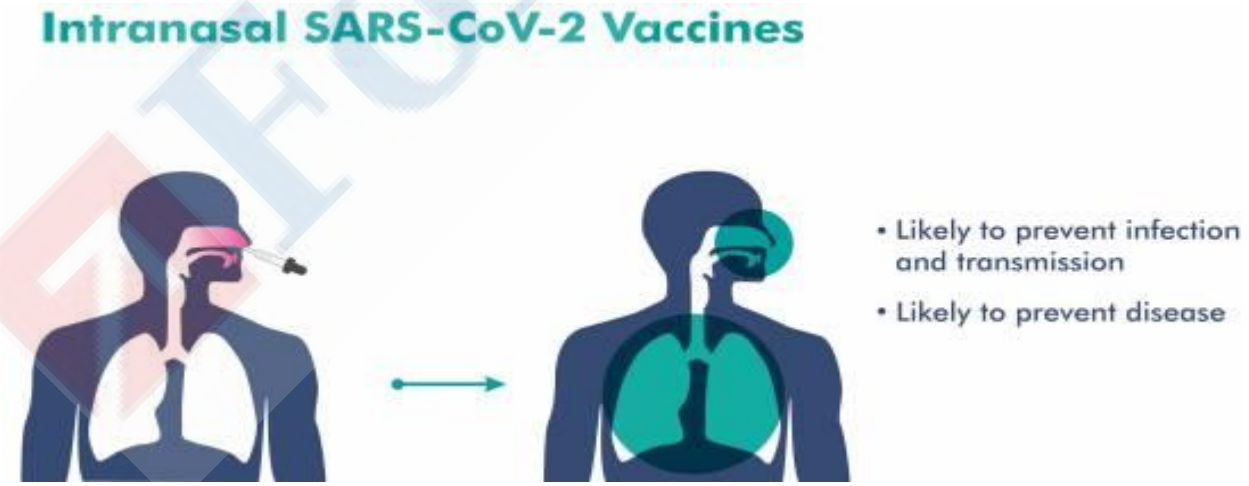
How does the COVID-19 virus enter the body?

The vast majority of infectious diseases that affect humans are **contracted through the mucosal surfaces** of the body, such as through the act of breathing, eating, or sexual contact. Important exceptions include infections that originate from wounds as well as pathogens transmitted by bites from insects or ticks.

The virus, that causes COVID-19 (SARS-CoV-2), can enter the body through the nose, mouth, or eyes if droplets or aerosols come into contact with these areas. If the virus travels deep into the lungs and triggers an overactive and inflammatory immune response, it has the **potential to cause severe disease**.

Evidence indicates that the **COVID-19 virus most likely makes its initial contact with the immune system through the mucous membranes** that line the surfaces of the mouth, nose, and throat. This is supported by the presence of SIgA antibodies (against the SARS-CoV-2) in the secretions of infected people, including their saliva, nasal fluid and tears. These locations, especially the tonsils, have specialized areas that specifically trigger mucosal immune responses.

Research suggests that if these SIgA antibody responses form as a result of vaccination or prior infection, or occur quickly enough in response to a new infection, they **could prevent serious disease by confining the virus to the upper respiratory tract until it is eliminated**.



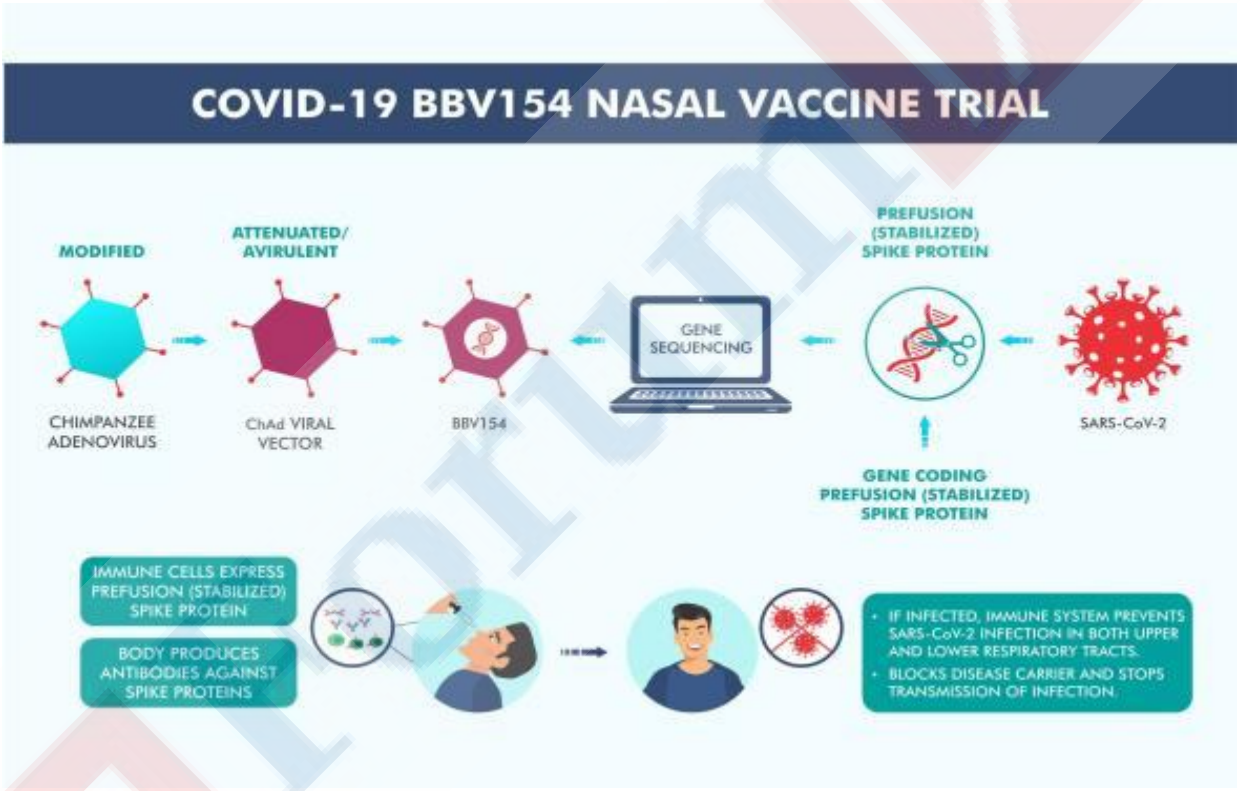
Source: Bharat Biotech

How do Nasal Vaccines for COVID-19 work?

Nasal Vaccines can be **administered via mucosal routes such as the mouth or nose**. This induces an immune response by **stimulating the mucosal immune system**, causing mucosal secretions to **produce SIgA antibodies**. Antibody Immunoglobulin A (Ig A, SIgA in its secretory form) plays an important role in the immune function of mucous membranes. The amount of IgA produced in association with mucosal membranes is greater than all other types of antibody combined.

In nasal vaccines, the viral antigens intended to stimulate the immune system would be **taken up by immune cells within the lining of the nose** or tonsils. Researchers believe nasal vaccines work analogously to oral mucosal vaccines. **Antigens in the vaccine induce B cells in mucosal sites to mature into plasma cells that secrete a form of IgA**. The IgA is then **transported into mucosal secretions throughout the body, where it becomes SIgA**.

If the SIgA antibodies in the nose, mouth or throat target SARS-CoV-2, they could **neutralize the virus before it can drop down into the lungs and establish an infection**.



Source: Bharat Biotech

What advantage do Nasal Vaccines have against COVID-19?

First, it **provides local immunity** (nose, where the virus first enters) and is expected to be more effective than other vaccines. This is because these Nasal vaccine will help **block the virus at its point of entry**, or at least to confine it to the upper respiratory tract, where it might inflict relatively little damage.

Second, Nasal vaccines are also **expected to limit the transmissibility of the COVID-19 virus**. Research has shown that COVID-19 spreads during normal breathing and speech, and is exacerbated by sneezing, coughing, shouting, singing and other forms of exertion. **Presence of SIgA antibodies** (due to vaccine) in nasal secretions will **limit the transmission** through above

mechanisms. (*Existing vaccines do not induce SIgA antibody responses. Injected vaccines primarily induce circulating IgG antibodies, which are effective in preventing serious disease in the lungs*).

Third, It is **easy to administer** with no need for syringes and trained manpower.

Fourth, it will be **practical and affordable**. Nasal vaccines are expected to have **lower costs**, **easy distribution**, etc. Nasal vaccines for COVID-19 **will not require cold chain infrastructure** with very low temperature.

Fifth, iNCOVACC could be developed as a multivalent so as to cover a wider spectrum of the Sars-CoV-2 virus.

Sixth, Nasal vaccines may be a **useful supplement to injected vaccines** in hot spots of infection.

Conclusion

Nasal Vaccine for COVID-19 can prove to be very effective in dealing with the pandemic. They are easy to transport and administer. Simple administering procedure may also help in overcoming vaccine hesitancy. The uptake of booster dose has been very low, the introduction of Nasal vaccine may address the gap. It will help boost the immunity of the population and reduce the severity of any possible future spike in infections.

Syllabus: GS III, Science and Technology: Developments and their applications and effects in everyday life; Awareness in the fields of Bio-technology.

Source: **Down to Earth**, **Indian Express**, **Bharat Biotech**

India's Foreign Trade Agreements (FTAs): Approach and Challenges – Explained, pointwise

Introduction

The Government has pushed the pace of negotiations for the Free Trade Agreements (FTAs) with a new vigour in the last couple of years. Trade deals with Australia and the UAE were signed earlier this year. Similar deals with the UK, the EU and Canada are expected to signed in the coming year. The Government has altered its approach to the FTAs and seems to have shed its earlier reluctance to bilateral trade deals. Several factors like the vision of the Government to enhance exports to achieve the US$ 5 trillion economy status and the the need to diversify supply chains amidst global geopolitical uncertainties may have induced this change. Several developments have negatively impacted global trade in the last few years. In addition, many issues like Climate Change, Environment, Labour Laws etc. have become contentious issues in the context of international trade. These adds new challenges to India's FTA negotiation process.

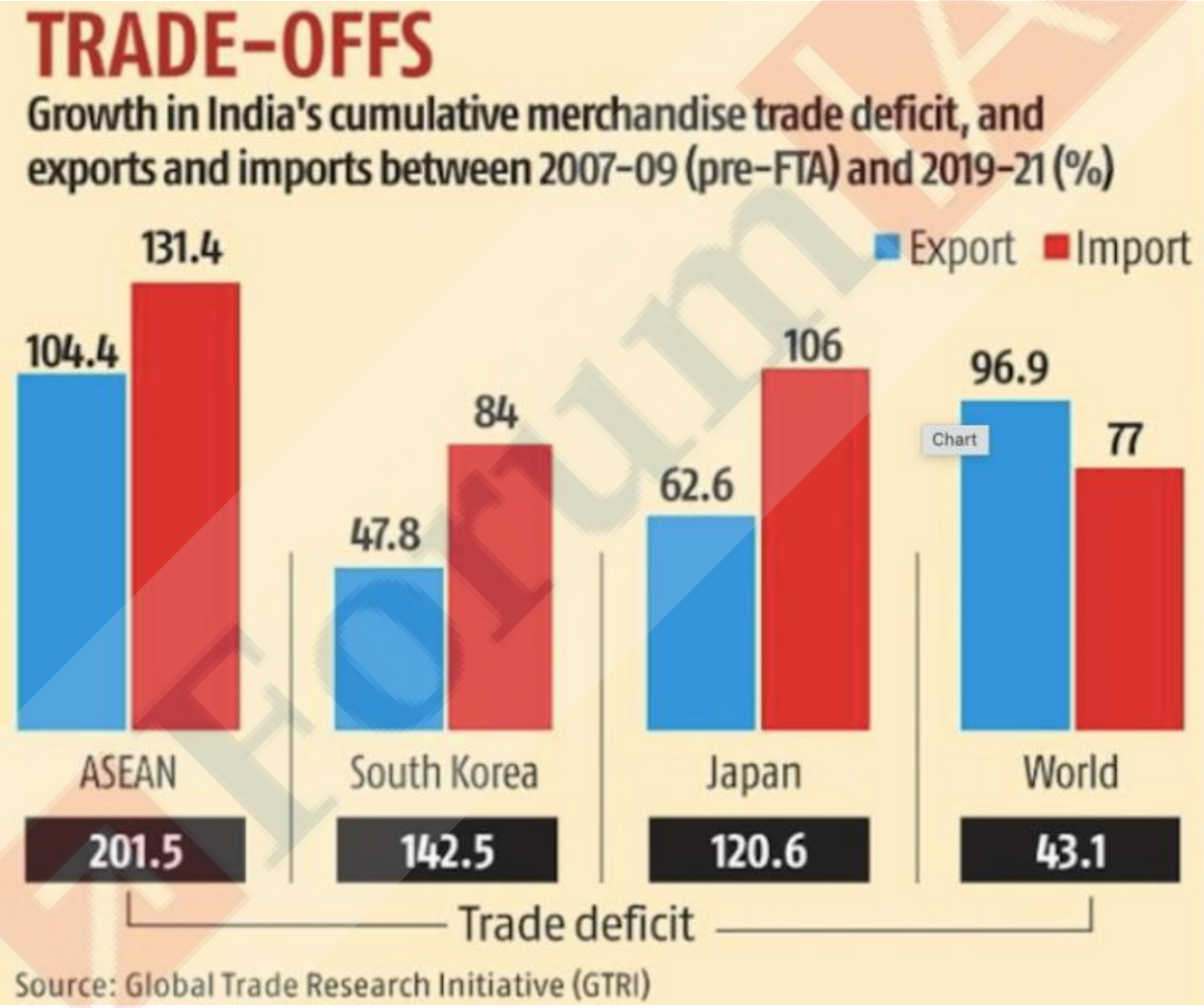
What are Free Trade Agreements (FTAs)?

FTAs are arrangements between two or more countries or trading blocs that agree to **reduce or eliminate customs, tariff and non tariff barriers on substantial trade** between them. FTAs, normally cover **trade in goods** (such as agricultural or industrial products) and **trade in services** (such as banking, construction, trading etc.). FTAs can **also cover other areas** such as Intellectual Property Rights (IPRs), Investment, government procurement and Competition Policy, etc.

India's FTAs

India had signed its first Trade Agreement in 1975. It was a Preferential Trade Agreement (PTA, *tariffs are lowered but not eliminated, preferential access to goods from participating countries*) known as Bangkok Agreement (renamed Asia-Pacific Trade Agreement in 2005). India signed the India-Sri Lanka FTA in 1998. This was the first time duties were eliminated on substantial tariff lines/goods. After the 'Look East Policy' was announced, several agreements were signed with East Asian countries. This includes Agreements with Japan, South Korea and the ASEAN.

However, the outcomes of these FTAs were not favorable. While the trade with the FTA partner countries grew, the growth rate of imports was much greater than exports leading to rise in trade deficit. FTAs benefited India's trade partners more than Indian firms. As a result, the Government became wary of signing more FTAs. India withdrew from RCEP in 2019. The fear was that the agreement included inadequate safeguards for Indian industries and that Indian market will be flooded with Chinese goods.



Source: Business Standard. India's imports with FTA partner countries (South Korea, Japan, ASEAN) grew at a much faster rate than exports.

However, there seems to change in Government's approach post COVID-19 pandemic. The Government is now seeking more investment, technology and potential markets for Indian goods in exchange for access to India's domestic market to foreign goods.

What is the relationship between Multilateralism under the WTO Regime and the FTAs?
Article 1 of GATT (General Agreement on Tariffs and Trade) deals with the **Most Favoured Nation (MFN) principle of the WTO**. It states that "any advantage, favour, privilege, or immunity granted by any contracting party to any product originating in or destined for any other country shall be accorded immediately and unconditionally to the like product originating in or destined for the territories of all other contracting parties". This means that if tariffs are lowered or eliminated on a particular good from the US, they must be lowered/eliminated for the same good from the EU or the UK or any other country.

However, derogations **(exemptions) from this MFN principle are permitted for forming FTAs** under specific conditions of the WTO Agreements. Article XXIV of GATT for goods and Article V of GATS (General Agreement on Trade in Services) deal with these exemptions.

The specific conditions (Article XXIV of the GATT) permitting FTAs are: **(a)** FTA members shall not erect higher or more restrictive tariff/non-tariff barriers on trade with non-members than existed prior to the formation of the FTA; **(b)** Elimination of tariffs and other trade restrictions be applied to "*substantially all the trade between the constituent territories in products originating in such territories*" i.e., if FTA is signed between two countries, the **trade barriers should be eliminated for nearly all goods**; **(c)** Elimination of duties and other trade restrictions on trade within the FTA to be accomplished "*within a reasonable length of time*" meaning a period of no longer than 10 years (i.e., if FTA has been signed, trade barriers should be removed within

The 'Enabling Clause' allows developing countries to form preferential trading arrangements without adhering to the conditions under Article XXIV.

Early Harvest Scheme
Early harvest scheme is a precursor to a Free Trade Agreement (FTA) between two trading partners. This is to help the two trading countries to identify certain products for tariff liberalisation pending the conclusion of FTA negotiation. It is primarily a confidence building measure. A good example of an EHS is between India and Thailand signed in October 2003, and implemented in wherein 83 products were identified to be reduced to zero in a phased manner.

What are the benefits of FTAs?

Enhanced Trade: The process of imports, exports and investments among the member countries is made much smoother after an FTA is signed. Import duties and tariffs are all reduced or eliminated, and subsidies may be introduced to facilitate trade.

Growth Opportunities: FTAs can help domestic companies enter new markets in FTA partner countries and compete in those markets. This includes bidding for/providing goods to Governments (Government procurement) of partner countries. FTA support **stronger people-to-people and business-to-business links**.

Cheaper Goods and Services: The reduction of duties and tariffs on imported goods will give access to a more extensive selection of imported goods and services at lower prices to domestic consumers.

Employment Opportunities: Enhanced trade and growth opportunities in new markets abroad will lead to expansion of domestic economy and create new livelihood opportunities.

Product Standards: FTAs generally involve product standards related to trade. This provides opportunities for domestic firms to upgrade their products to meet international standards.

Investments: FTAs can also help attract more foreign investments.

What are the challenges associated with FTAs?

Policy Challenges: The **2020 WTO Trade Policy Review of India** noted that India makes extensive use of trade policy instruments such as tariffs, export restrictions, export taxes, anti-dumping duties, and import licensing. According to economist Arvind Panagariya, such tools **create uncertainties and induce distortions** in the international trading system. This is evident from Government's restrictions on exports of wheat and rice in 2022.

Poor Utilisation of the existing FTAs: The reasons range from the cumbersome process of getting a certificate of origin and the related manual verification process to low awareness about FTAs in the domestic Indian industry.

Protectionist Fears: There are fears that FTAs will lead to influx of cheaper goods from abroad and will prove detrimental to India's domestic industry. These protectionist fears forced the Government to withdraw from RCEP.

New Issues: Developed countries have brought new issues like the labour standards, environment, climate change within the ambit of trade and FTA negotiations. Inclusion of such issues will add additional costs and make Indian goods uncompetitive. e.g., According to a report by Global Trade Research Initiative, the **US has brought up the issue of carbon emissions in the process of manufacturing melted steel** as a non-tariff related issue. While India mostly produces steel generated from iron ore, which in turn comes from mining, most developed countries have resorted to methods to generate it from scrap, which results in lower carbon emissions. If conditions related to emission standards are made part of FTA, India's steel industry will lose its competitive edge. Similarly, the EU has also proposed a **Carbon Border Adjustment Mechanism** (CBAM) to tax carbon-intensive products, such as iron and steel, cement, fertiliser, aluminium and electricity generation, from 2026.

India-South Korea CEPA and Zinc Trade

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

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

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

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

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

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

Rules of Origin

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

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

What should be India's approach regarding the FTAs?

Remove Restrictions: The Government must remove some of the restrictions on foreign direct investment and lower tariffs. Else negotiating countries may offer a lower level of liberalisation than what they offered to their other FTA partners. In that case India's exporters will be at a disadvantage even after the agreement.

Trade Facilitation Reforms: There is also a need to improve the efficiency of Ports, Shipping, Customs Clearances etc. via automation, which can also be a big boost for participation by MSMEs.

Involve Industry: The Government must involve industry representatives in FTA negotiation process. This can help Government identify Industry's comparative advantage and negotiate the agreement accordingly.

Hybrid Models: The existing value chains are being disrupted due various geopolitical factors. Most nations feel the need to develop alternative sources of supply in which all the components are available in the vicinity or within the country's own economy. Therefore, India must look at a hybrid model to source from the most efficient suppliers, including domestic players.

Adjust to New Paradigms: Trade in services, e-commerce, labour, climate/environment, digital trade, public procurement will become central issues in international trade in future. Government must be prepared to adjust to this new paradigm rather than avoiding these issues.

Building Digital Capabilities: The Government must work on building its digital capabilities and infrastructure in key export sectors through a '**Digitally Informed Foreign Trade Policy**', with a focus on **enhancing India's trade competitiveness**. This can be achieved by developing digital infrastructure for trade, building digital skills in trade-able sectors, increasing the share of technology content in exports, and leveraging advanced technologies (Big Data Analytics, IoT, and Blockchain) for evidence-based and informed trade policy decisions.

WTO Plurilateral Negotiations: India could further increase its exports by participating in the major plurilateral negotiations on services, environmental goods, and government procurement now taking place at the WTO.

Conclusion

As the global economy is feared to go into a phase of slowdown, various analysts have noted India as a bright spot in the global economy. The economy is expected to reach US$ 5 trillion in the next 3-4 years. To achieve this status, all growth levers have to be engaged, including trade. FTAs can provide vital boost to foreign trade, provided they are negotiated keeping the domestic capabilities in mind. India-Australia trade agreement is being praised for careful negotiations undertaken by the Government that complements strengths of India's industry. This approach should be adopted in other FTA negotiations as well. With the **WTO losing its relevance**, FTAs may be the way to go in near future.

Syllabus: GS III, Indian Economy and Issues related to Growth

Source: **Business Standard**, **The Hindu BusinessLine**, **Indian Express**, **Economic Times**, **IBEF**, **EEPC**

[Kurukshetra December Summary] e-Governance in Healthcare Services Delivery – Explained, pointwise

Introduction

According to the Ministry of Electronics and Information Technology, Government of India, e-Governance is the application of e Information and Communication Technology to promote 'Simple, Moral, Accountable, Responsive and Transparent' (SMART) governance. The Government has launched various initiatives for e-Governance in healthcare sector. For instance, the National Health Portal serves as a single point of access to health-related information for citizens and e-Hospital Management System tracks the delivery of patient care and diagnostic services. Mobile-based Applications have also been launched like TB Missed Call initiative and *Kilkari* App. Healthcare sector faces several challenges in India. Technology can be a game-changer in delivery of healthcare services. Government must scale-up the use of technology to make healthcare affordable and inclusive.

Policy Measures for e-Governance in Healthcare

Over the last few years, the Government has announced several policy measures to usher in a new era of technology-enabled healthcare delivery.

National Health Policy, 2017 envisions a digital health ecosystem and recognises the integral role of technologies such as eHealth, mHealth, Internet of Things (IoT), wearables and cloud, among others, in the delivery of health services.

In 2018, NITI Aayog released a proposal on **National Health Stack** with the objective of providing a framework for the country's futuristic digital health system.

National Digital Health Mission (NDHM) aims to create a management mechanism to: **(a) Process digital health data** and facilitate its seamless exchange; **(b) Develop registries** of public and private facilities, health service providers, laboratories and pharmacies; **(c) Support clinical decision-making** as well as offer services like telemedicine.

The NDHM has the potential to make the **health system more evidence based, transparent and efficient**. Operationalising a **single health ID** and profile for every citizen, as envisaged under the NDHM, is an important reform for optimising health information systems.

Challenges to e-Governance in Healthcare in India

Fragmented Sector: It is estimated that nearly 98% of the country's health facilities employ 10 people or less. The fragmentation of the sector creates hurdles for digitisation.

Isolated Systems: A lot of information including patient records are scattered across disparate manual or IT systems with limited or no possibility of interoperability. In addition there are issues related to **lack of shared standards for health records** as well as the absence of a common and consistent healthcare design

Importance of eGovernance in Healthcare: Health Information Systems

Informed Decision-making: Operationalising a single health ID and profile for every citizen can **minimize the need for repeat investigations** and facilitate more informed decision- making by doctors.

Enable Data Analytics: Digital health records can also enable data analytics at the population level to identify treatments which are **likely to evoke a better response from patients**.

Monitoring: A system-wide electronic health profile can **enable monitoring of diseases and efficient analysis of patient data**. It can facilitate geographical, demographical and risk-factor based monitoring of health, followed by the design of **targeted interventions**. e.g., in context of COVID-19 pandemic, an analysis of comprehensive digital health profiles of a substantial part of the population, can give a head start in identifying people with comorbidities and implementing preventive health interventions expeditiously.

Avoid Duplicity: An effective IT infrastructure linking public and private healthcare establishments, through information exchanges, will ensure data consistency across systems, eliminate duplication and minimize the reporting burden.

Accurate Information: Digitization will enable access to accurate information about the credentials and pricing of services offered by various health facilities, providers and diagnostic laboratories.

Eliminate Geographical Barriers: The concept of connected care where eICUs, neonatal ICUs and **remote operating centres** can be monitored by experts who are not present in same geographical location can eliminate geographical barriers and enhance access.

Research and Development: For researchers, access to this healthcare data can facilitate the evaluation of programme and policy effectiveness as well as accelerate innovation. Analytics of disease load and patient response can help in **drug/vaccine development**. The use of technologies like Artificial Intelligence (Al) for anonymised, aggregated health data can pave the way for **predicting the likelihood of a patient falling sick**.

Operational Efficiencies: Technology can improve operational efficiencies in the healthcare sector, **strengthening supply chain performance** and enabling skilling of health professionals at large scale. For skilling and up-skilling health professionals as well as delivering continuing medical education, digital education platforms can enable dissemination of information pertaining to the latest advancements in the field along with training modules for specific diseases.

Initiatives for e-Governance in Healthcare Services Delivery

e-Sanjeevani: It is a tele-consultation services initiative that employes Information Communication Technologies (ICT) to enable diagnosis, treatment and management of diseases.

Swasth: It is a coalition of over 100 healthcare specialists in the private sector to launch a **telemedicine application** which aims to deliver equitable and affordable healthcare to all Indians, by cutting across geographical and income barriers. It is an **open-source platform** built with inter-operability principles that comply with the Government's National Digital Health Mission. The application **facilitates seamless, remote interaction between registered medical practitioners and patients** through multiple modes of video and telephony. It also **deploys Artificial Intelligence based triaging** to determine the care required, culminating in a digitally signed prescription and treatment advice. It also **provides services like home quarantine assistance**, access to diagnostic laboratories and pharmacies as well as hospital bed discovery and booking assistance at a subsidised cost.

e-Hospital Management System tracks the delivery of patient care and diagnostic services.

The ***Mera Aspataal*** initiative captures **patient feedback for the services** received by them in hospital.

The **TB Missed Call initiative** is mobile service for providing **treatment and counselling to TB patients**.

Through the ***Kilkari*** application, the Government delivers **free messages every week pertaining to pregnancy and child care** between the second trimester of pregnancy until the child is one year old.

The **M-Cessation** application encourages people to quit tobacco use.

Numerous platforms have also been launched by the Government for tracking service delivery. These include the ***Nikshay* platform** for tracking TB patients, the **Mother and Child Tracking Syste**m for monitoring pregnant women and children under five years of age and the **Ayushman Bharat – Health and Wellness Centre portal** for overseeing the delivery of comprehensive primary healthcare services through Health and Wellness centres across the country.

Inclusion of **telemedicine in the NDHM's digital suite** will help connect patients with doctors and specialists. It can help address lack of access to doctors and healthcare professionals in rural areas. A timely 5-minute consultation enabled by telemedicine can save lives and avoid huge downstream costs.

Aarogya Setu: It was launched during COVID-19 pandemic to facilitate effective contact tracing. It allows people to assess their risk of contracting the infection based on their location and interactions with others.

The **CoWIN Application** is a repository of COVID vaccination data. It is a platform to register for COVID-19 vaccine. It helped in tracking the pace of vaccination during the pandemic.

Electronic-Urban Primary Healthcare Centres (e-UPHCs): With a footfall of 12,000 on a daily basis, the program has touched 5.2 million lives over two years and has brought quality healthcare within the reach of all citizens, by significantly leveraging technology. This model can be replicated in other rural areas with private players. E-ICUs can also be set up in semi- urban and rural areas and connected to a central monitoring hub.

Changing Trends in Healthcare Services Post COVID-19 Pandemic

Earlier patients from Tier-2 and Tier-3 cities travelled to Tier-1 city for accessing healthcare services. Now they can access Tier-1 city services through digital platforms.

Online training and education of medical learning and the use of simulators is far more prevalent and acceptable nowadays.

New technologies in simulation like haptic feedback are enabling realistic online training. With haptic feedback, trainees can get an experience of touch to realistically simulate the jerks and vibrations which would otherwise be experienced by a surgeon during surgery.

Conclusion

The market size for telemedicine in India was around US$ 830 million in 2019. It is projected to increase to US$ 5.5 billion by 2025 growing at a CAGR of 31%. What is clear from these trends is that the healthcare sector is moving towards the digital transformation. In future, connected care may become a norm and patients may no longer be constrained by geography in accessing healthcare services. The Government should scale-up its efforts regarding e-governance in healthcare sector to equip doctors and hospitals to deliver accurate diagnosis and treatment to patients using the latest technologies.

Syllabus: GS II, Issues relating to development and management of Social Sector/Services relating to Health; e-Governance: applications, models, successes, limitations, and potential

Source: Kurukshetra December 2022

Collegium System and the NJAC: The Issue of Judicial Appointments – Explained, pointwise

Introduction

There has been an ongoing confrontation between the Government and the Judiciary regarding the issue of Judicial Appointments (of Judges to Higher Judiciary). The Government has issued concerns regarding the Collegium System, calling it opaque; and the invalidation of the National Judicial Appointments Commission (NJAC) by the Supreme Court in 2015. There has been disagreement between the Government and the Supreme Court regarding the names recommended by the Supreme Court Collegium for appointments of Judges to Higher Judiciary. The Government has reiterated the need for a National Judicial Appointments Commission (NJAC), prompting the Supreme Court to defend the present Collegium system. The friction between two organs of the State does not bode well for the functioning of the democratic set-up. Experts have pointed out benefits and shortcomings with both the systems. In this context, the Government and the Judiciary must resolve the differences amicably and arrive at a system that is a best fit between the two: NJAC and the Collegium System.

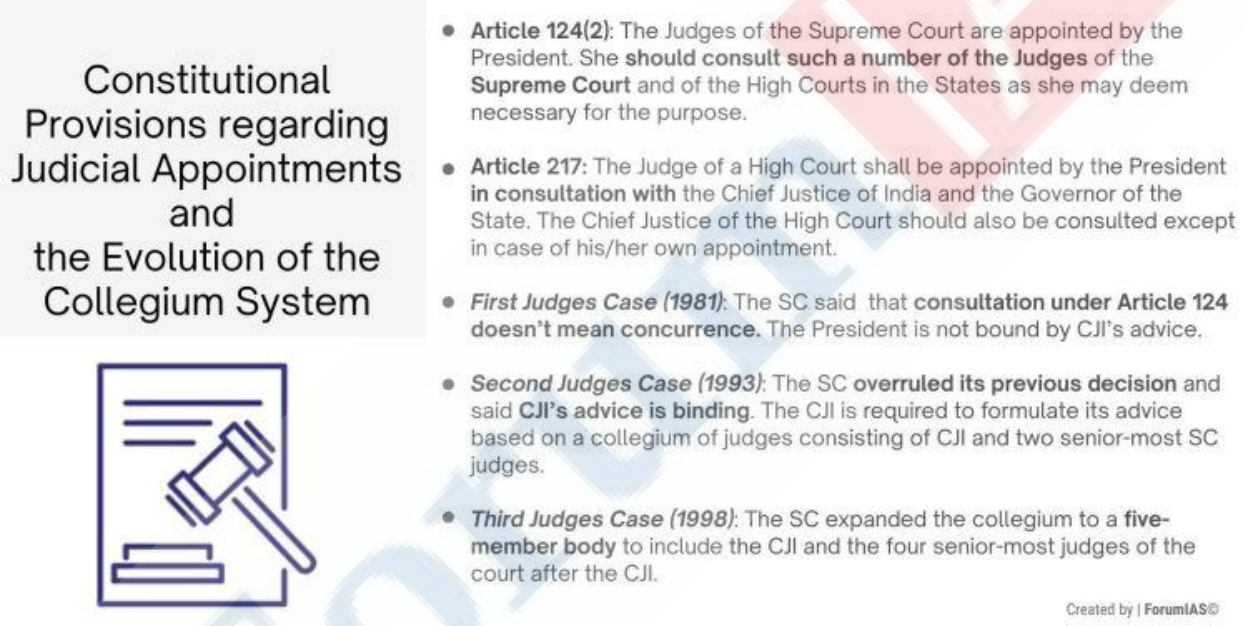
What is the current mechanism of Judicial Appointments?

At present, the Judicial Appointments and transfers (Higher Judiciary, Supreme Court and the High Courts) are undertaken through the 'Collegium System'.

The Collegium of the Supreme Court is a body of 5-Judge body, **headed by the Chief Justice of India**. It includes 4 senior-most Judges of the Supreme Court. The Collegium recommends the name of Judges to be appointed to the Court.

The Government also undertakes background checks of the candidates through its agencies like Intelligence Bureau (IB). The Government may raise objections to the choice and ask for clarification. The Government can **return the recommendations** of the Collegium for **reconsideration**. However, if the recommendations are **reiterated, the Government must accept them** (SC Judgment).

The Collegium System has not been mentioned in the Constitution. It has evolved through series of Judgments of the Supreme Court. These Judgments are ***Gupta & Others v. Union of India, 1981*** (First Judges Case), ***Supreme Court Advocates on Record Association Vs. Union of India, 1993*** (Second Judges Case) and the ***In re Special Reference 1 of 1998*** (Third Judges Case).



What are the concerns associated with the Collegium System?

Constitutional Status: The Collegium is **not prescribed in the Constitution**. Article 124 mentions consultation, which the **SC interpreted as 'concurrence'** in Second Judges Case (1993). During the hearing against the NJAC, the then SC Bar President had argued that the **Constituent Assembly** had considered a proposal for making **Judges' appointment 'in concurrence'** with the CJI but had eventually **rejected it**. The Collegium

Transparency There is no official procedure for selection or any written manual for functioning of the Collegium. The parameters considered for selection (or rejection) are not available in the public domain.

Accountability: The selections of Judges by the Judges is considered undemocratic. Judges are not accountable to the people or any other organ of the State (Legislature or Executive). It can add an element of arbitrariness in functioning.

Criticism by Judges: Many retired Judges have criticized the working of the Collegium, especially the lack of transparency. Several controversial appointments have been made despite objections by the member-Judges of the Collegium.

No Checks: There are no checks on the process. Nor has there been any review regarding the effectiveness of the process. Critics of the system argue the phenomena of '**Uncle Judges**' wherein near relatives, kith and kin of sitting Judges are appointed to the higher judiciary leading to **nepotism**. **Law Commission** in its **230th Report** (2012) had recommended that that the Judges, whose kith and kin are practicing in a High Court, should not be appointed in the same High Court. The absence of transparency, accountability and external checks creates **space for subjectivity** and **individual bias in appointments**. In some cases, the principle of seniority has been ignored.

No Reforms: The Supreme Court did not amend the contentious provisions of the NJAC Act or added safeguards to the Act. Instead it struck down the whole Act. The Supreme Court reverted to the old Collegium System. However, the Court did not take any step to address the concerns associated with the Collegium System.

No Global Equivalent: India is perhaps the only country where Judges appoint other Judges without involvement of any other organ of the State.

What was the National Judicial Appointments Commission (NJAC)?

The Parliament had passed the **99th Constitutional Amendment Act, 2014** and the **National Judicial Appointments Act, 2014** that proposed to create a National Judicial Appointments Commission (NJAC). The NJAC was **supposed to be an independent Commission to replace the Collegium System** to appoint Judges to the higher Judiciary.

The Commission would have consisted of 6 members: **(a)** The **Chief Justice of India** as the ex-officio Chairperson; **(b)** Two senior-most Supreme Court Judges as ex-officio members; **(c)** The Union Minister of Law and Justice as ex-officio member; **(d)** Two **eminent persons from civil society**. The eminent persons were to be nominated by a committee consisting of the Chief Justice of India, Prime Minister of India and the Leader of Opposition in the Lok Sabha. One of the eminent persons was to be nominated from SC/ST/OBC/minorities or women.

The **NJAC Act prescribed the procedure** to be followed by the Commission to appoint judges. The Act **empowered any 2 members of the NJAC to veto a recommendation** if they did not agree with it.

In 2015, the Supreme Court had declared the Amendment Act and the NJAC Act as **unconstitutional**, as it impinged on the **independence of the Judiciary** and undermined the **basic structure of the Constitution**

What were the issues associated with the National Judicial Appointments Commission (NJAC)?
First, the two eminent persons to be part of the NJAC **need not have any expertise in Law** or related to the functioning of the Courts. This would created an avenue for the Government to appoint any person to the Commission.

Second, Certain terms were left unexplained and ambiguous in the Acts e.g., Section 5(1) of the NJAC Act required the NJAC to recommend the senior-most Judge of the Supreme Court as the Chief Justice of India "if he is considered fit to hold the Office". However the criteria for fitness has not been defined.

Third, the **veto power by any two members** could have resulted in overriding of the Judicial opinion.

Fourth, the **CJI had no Casting Vote**. The NJAC had an even number of 6 members but the Chairperson, the Chief Justice of India, had no casting vote. A casting vote could have been useful in avoiding a deadlock (due to split in the even number of votes).

Fifth, The Chief Justice and two senior-most judges of every High Court had to nominate persons to the NJAC for appointment as High Court Judges. Simultaneously, the **NJAC could also nominate persons** for appointment as High Court Judges. This could have **resulted in conflict** if the two set of nominees were different.

Sixth, The **NJAC had the power to frame regulations** laying down the criteria of suitability, and the procedure of appointing judges of the SC and the HCs. The **Parliament had the power to nullify these regulations**, thus giving **over-riding powers to the Legislature over Judiciary**.

What are the benefits of the Collegium System?

Checks Interference of the Executive: The system isolates Judiciary from the influence of Executive and Legislature. It **ensures independence of the Judiciary**. The interference of the Executive manifested during Emergency when several settled conventions were disrupted like appointment of senior-most Judge as the Chief Justice.

Executive as Main Litigant: The Government is the main litigant in Courts accounting for ~50% of the cases. Prominence to the Executive in appointments **may impact impartiality of the Judiciary** in adjudication.

Expertise: Executive may lack the expertise regarding requirements of a Judge. The Judiciary may be the best 'judge' in this regard.

Safeguarding the Constitution: Excessive Government control over Judiciary will make the Judges vulnerable to external influence. Judicial Independence is absolutely essential to safeguard the Constitution and underlying principles like Right to Life, Right to Privacy etc.

What should be done going ahead?

Revive NJAC: Many judicial experts, including former Judges contend that NJAC system can be a better alternative than the Collegium system, **provided the infirmities in the NJAC Act are rectified**. In this context, the NJAC can be revived. All stakeholders like Judiciary, Legislature, Bar Associations **should be consulted** before finalization of any proposal.

Ensure Smooth Functioning: Till a new system is established, the Government should adhere to the recommendations of the Collegium and make the appointments in a prompt manner. Delay in appointments and needless friction should be avoided.

Finalize MoP: The Government and Judiciary should cooperate to finalize the Memorandum of Procedure (MoP) regarding judicial appointments. The **MoP should have clear guidelines** like transparency, eligibility criteria, mechanism for complaints against candidates etc.

Bring Transparency: The Judiciary should bring more transparency in the process of appointments. Collegium must disclose the reasons for selection and rejection of a candidate.

All India Judicial Services (AIJS): Several experts have argued for establishment of All India Judicial Services (AIJS) to **improve the quality of judges in the lower Judiciary**. This should be consulted and implemented post consensus among all stakeholders.

Secretariat: Experts recommend that a well-resourced independent secretariat for judicial appointments should be established. There should be a comprehensive candidate database as well. It is necessary to be aware of vacancies in advance in order to facilitate quick judicial appointments.

Conclusion

The system of Judicial Appointments should be improved expeditiously. Judicial vacancy is one of the major reason for judicial pendency. All organs of the State should cooperate with each other with right citizen-centric spirit to ensure smooth functioning. Both the Collegium System and the NJAC have their pros and cons. The Government, the Parliament and the Judiciary should coordinate with each other to design the best possible system for Judicial Appointments.

Syllabus: GS II, Separation of powers between various organs; Structure, organization and functioning of the Executive and the Judiciary.

Source: **Indian Express**, **Indian Express**, **The Hindu**, **The Hindu**