

7 PM COMPILATION

November, 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**
- ❖ **Wide use of charts, diagrams and info graphics**
- ❖ **Best-in class coverage, critically acclaimed by aspirants**
- ❖ **Out of the box thinking for value edition**
- ❖ **Best cost-benefit ratio according to successful aspirants**

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Waste to Energy Plants: Benefits and Concerns – Explained, pointwise

Introduction

The Union Home Minister recently inaugurated a Waste to Energy Plant at Tughlakabad in New Delhi. The plant is expected to treat 2000 metric tonnes of waste in the national capital per day. The plant will generate 5 MegaWatts (MW) of energy. The Union Home Minister said the the plant is a multi-dimensional, multi-purpose plant that help clean the city and reduce burden of waste management. However, some environmental experts have expressed concerns regarding the effectiveness of waste to energy plants, and questioned their utility.

What is the status of Municipal waste generation in India?

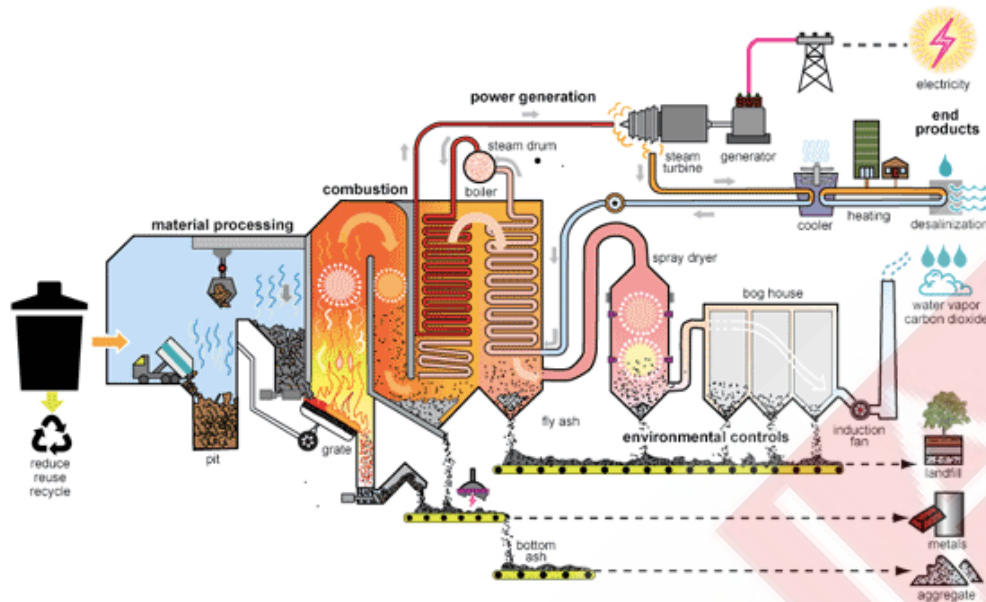
Per Day Waste Generation: In the Budget Session (2022), the Government informed the Parliament that the total quantity of solid waste generated in the country was 150,761 tonnes per day in 2019-20. According to a World Bank report (2018), India's per capita waste generation lies at 0.57 kg/day as compared to 0.52 kg in South Asia and 0.74 kg at the global level.

Compositional Characteristics of Waste: The Government informed the Parliament earlier this year, *"The compositional characteristics of waste in India are very distinct compared to those in developed countries. Waste generated in the country has **more organic components, more moisture content and low calorific value** compared to waste generated in developed countries, which has direct influence on efficiency of electricity generation"*.

A report titled "To Burn or Not To Burn", by the Centre for Science and Environment (2019), says that organic waste is around 40%-70% of the total waste, paper and cardboard contribute about 6% to 7%, and then come recyclable plastic (6% to 10%), and non-recyclable plastic (5%-10%). Other than this, metal, glass and domestic hazardous waste contribute around 1%- 3%.

What are the Waste to Energy Plants?

Waste-to-energy (WtE), also known as energy-from-waste, is the process where energy (typically heat and electricity) is generated **using waste as a fuel source**. This is often done through direct combustion using waste incinerators – i.e. burning the waste – or the production of a combustible fuel from a gas such as methane. The latter method is less common and requires processes such as gasification or anaerobic digestion.



A mass-burn waste-to-energy plant

Source: Adapted with permission from [Deltaway Energy](#)

The process of generating electricity in a mass-burn waste-to-energy plant has seven stages:

1. Waste is dumped from garbage trucks into a large pit.
2. A giant claw on a crane grabs waste and dumps it in a combustion chamber.
3. The waste (fuel) is burned, releasing heat.
4. The heat turns water into steam in a boiler.
5. The high-pressure steam turns the blades of a turbine generator to produce electricity.
6. An air pollution control system removes pollutants from the combustion gas before it is released through a smoke stack.
7. Ash is collected from the boiler and the air pollution control system.

Source: USEIA

What is the status of Waste to Energy Plants in India?

Around **92 plants** with **aggregate capacity of around 250 MW** have been set up in India for electricity generation from urban, agricultural and industrial waste.

According to a report, “Value of Waste”, by the Associated Chambers of Commerce and Industry, investors had valued WtE in India at ~US\$ 1.5 billion in 2017 and expected it to grow to about US\$ 11.7 billion by 2052.

The Ministry of New and Renewable Energy’s website says that the total estimated energy generation potential from urban and industrial organic waste in India is approximately 5,690 MW.

The report “To Burn or Not To Burn”, says that plants of a combined capacity of 382.7 MW are proposed in India. According to the report, the plants with a capacity of 69.2 megawatts are

operational, the ones with a capacity of 84.3 megawatts are under construction and 66.35 megawatts plants are non-functional.

What are the benefits of Waste to Energy Plants?

Better than traditional incineration: Waste-to-energy is often promoted as “clean energy” when compared to wasteful incineration practices of the previous decades. In this regard, it is utilizing energy that would otherwise be wasted, while not technically increasing the amount of waste burned. *(This argument only holds if incineration is the only option, whereas most responsible waste management plans are now looking toward less damaging, more circular solutions that contribute less to climate change).*

Avoid landfilling: Landfills are the last resort when it comes to waste management, causing numerous issues such as the production of greenhouse gases, the usage of large pieces of land, the potential for pollutants to seep into the ground and groundwater etc.

Waste-to-energy processes at specialist incineration plants can greatly reduce the volume of waste that is landfilled.

Resource Recovery: Another benefit of waste-to-energy over landfilling is the opportunity to recover valuable resources such as metals post-incineration. They can then be sent for recycling and kept in the economy. This is even true of mixed materials, which are notoriously hard to recycle. Incineration burns away materials such as plastics leaving the metals behind, which can be considered better than landfills where recyclable materials are simply buried.

What are the challenges associated with Waste to Energy Plants?

Sustainability: There is no segregation of waste in WtE plants. The waste is burned in mixed form resulting in an increase in the amount of waste. This impacts the power generation by the plant and leads to pollutants. Moreover, the leftover burnt material is not suitable for brick making, which then has to be disposed off in landfills.

In India, capacity to manage waste has not grown with the pace of its capacity to generate waste. There is a huge gap between the quantity and quality of waste India are generating, and the capacity of the municipality to manage that waste.

Feasibility: WtE plants do not get many buyers for the power they generate due to cheaper alternatives being available. Maintenance costs are high. The tariff rates for these projects are very high at more than INR 6-7 per unit. This is because of a high capital cost, high O&M expenses, low calorific value of the fuel used and the **additional fuel used to burn the waste**. Additional fuel is required to burn unsegregated waste which makes the plant unviable. This is the reason why Waste to Energy plants in many cities are not functioning properly or were shut down.

The calorific value of waste in India ranges from 1,411 kcal/kg to 2,150 kcal/kg. If it is compared to the calorific value of garbage in Sweden, Norway, Germany and United States ranges between 1,900 kcal/kg and 3,800 kcal/kg. India's is too low to burn.

Environmental and Health Impacts: This is because of highly variable and poor quality of wastes that these plants are not able to burn properly. They have to reject about 30-40% of waste into landfills because they are either inert or too poor in quality to be combustible.

Because these plants have to handle a vast quantity of mixed waste, the housekeeping is extremely challenging leading to a lot of dust and visual pollution.

High CO₂ Emissions: Almost all the carbon content in the waste that is burned for WtE is emitted as carbon dioxide, which is one of the most notable greenhouse gas.

Potential to destroy Recoverable Materials: While waste-to-energy gives the opportunity to recover some resources, such as metals, it tends to destroy resources that could otherwise have been recovered, including minerals, wood, plastics, and more. This is especially true if there is not a rigid separation process for municipal solid waste ahead of incineration.

WtE could Disincentivize Recycling: Waste-to-Energy has the potential to disincentivize recycling or other more sustainable waste management methods. If people, organizations, or governments believe that waste-to-energy is a viable sustainable energy source and waste management technique, they are less likely to engage with or invest in more impactful solutions, such as reduction, reuse, or recycling. This can already be seen with the classification of many WtE Plants as “renewable energy”.

What should be the approach going ahead?

Sustainable Approach: Composting, biogas installation and bio-methanation, and recycling of dry and electronic waste can help reduce waste sent to landfills by 80% to 90%. Rather than having a WtE plant in every city, WtE Plants can be installed for a cluster of a few cities or a larger area, which is a more sustainable approach. In the long term, the Government should promote more sustainable circular economy.

Read More: [Circular Economy: Meaning, Benefits and Opportunities – Explained, pointwise](#)

Rules and Regulations: WtE plants with a capacity of less than 15 MW do not require prior environmental clearance. Such cases, therefore, may not require public hearing. This must be reconsidered.

The Solid Waste Management Rules, 2016, have spelled-out that only segregated non-recyclable high-calorific fractions like used rubber tyre, multilayer plastics, discarded textile and paper are sent to WtE plants. This should be strictly implemented.

Need to stop waste trade: Today, many developed countries send their waste to developing countries for processing, often as part of a broader waste management plan that claims to improve recycling rates. In some cases, waste is recycled, but often it is simply incinerated or used in waste-to energy facilities. China’s National Sword Policy highlighted the scale of this practice. The unregulated nature of this trade means improper disposal. In fact, it has even been shown that hazardous wastes not meant for incineration are commonly shipped abroad where they are burned before being landfilled. This must be prohibited.

Conclusion

According to environmental experts, Waste to Energy Plants can address the problem of landfills but they by themselves are not the ideal solution. In this context, the approach towards Waste to Energy plants must be reconsidered. Experts have called them a short term solution. In the longer term, more sustainable solutions like Circular Economy Approach is the best way forward.

Syllabus: GS III, Conservation, Environment Pollution and Degradation.

Source: [Economic Times](#), [The Times of India](#), [US Energy Information Administration](#), [MNRE](#)

Need for a National Security Doctrine for India – Explained, pointwise

Introduction

The US (Biden Administration) has recently released the National Security Strategy. It is a document prepared periodically by the US Government (Executive) that lists the national security concerns and how the Administration plans to deal with them. The Government is legally bound to present the document to the US Congress (Legislature) under the Goldwater-Nichols Act (Department of Defense Reorganization Act, 1986). The NSS also gives the Congress an opportunity to assess the cost that the country will have to bear to achieve the nation's security goals. Policy experts argue that India lacks such a structured approach towards its National Security. Many strategic analysts have suggested that India needs a National Security Doctrine (NSD). Some other experts contend that India has managed successfully without one. They further argue that such a doctrine without matching capabilities, will serve no purpose. There is further debate on whether it should be a doctrine or a strategy.

What is the meaning of National Security?

The concept of national security has evolved and expanded over the years. Earlier it was limited only to protection against external military attacks. However, now National Security means the **ability of a country's government to protect its citizens, economy, and other institutions**. It includes non-military dimensions like **economic security, political security, energy security, homeland security, cybersecurity, human security, food security, environmental security and counter-terrorism** etc. To ensure national security, governments rely on tactics, including political, economic, and military power, along with diplomacy.

It is generally agreed that the Executive branch is responsible for coordinating the implementation of various security measures to protect the state and its citizens in a way that advances national interests as a whole.

What is the difference between Doctrine and Strategy?

The concept of Doctrine and Strategy are closely interrelated yet distinct concepts.

Doctrine is an **overall statement of principles** as to how forces are used at any stage. The US Department of Defense defines doctrine as: "Fundamental principles by which the military forces guide their actions in support of national objectives. It is **authoritative** but requires judgment in application."

Broadly, Strategy refers to **'ways and means to an end'**. The end is the goals established by the Doctrine or Policy. Strategy defines **how operations are executed to accomplish doctrine objectives**. Strategy is a **continuous process** where ways and means are aligned to accomplish desired policy end goals while keeping risk at an acceptable level. It provides broad outcomes along with the plans and designs to achieve them.

Strategy describes a perspective on how resources are to be used to achieve some goal where as Doctrine is an overall statement of principles as to how forces are used at any stage. Thus strategy is short term while doctrine is long term. Moreover, Strategy changes frequently based on circumstances while Doctrine is authoritative.

What is the need for National Security Doctrine for India?

Hostile Nuclear-armed Neighbours: India has two hostile nuclear-armed neighbours, Pakistan and China. Both have antagonist approach towards India. Any error by either State might result in a nuclear conflict. Having NSD will be beneficial in reducing the threat posed by nuclear weapons.

Consistency and Political Consensus: The policy and **approach keeps on changing** with a change in the government. There is lack of agreement on threats from Pakistan, Maoism, insurgency, and so on. Having a National Security Doctrine will provide guiding principles that are more consistent and authoritative.

Calibrating National Security and Foreign Policy: Because there has never been a security doctrine, there has been very little effort put into **calibrating national security initiatives with foreign policy**. For instance, there is a lack of clarity on what form of foreign policy towards Pakistan would be most effective in tackling Pakistan-sponsored Terrorism at the international level.

Jointness in Tri-Services: The Government has created the post of Chief of Defense Staff as a first step towards jointness in the 3 services. Joint Theatre Commands is next on the agenda of the Government. However, there are **differences among three services** regarding the joint theatres. A National Security Doctrine can act as a guiding document to achieve the jointness and avoid the inter-service conflict.

Multiple Threats: India had long porous borders with many of its neighbours which are exploited for **arms, drugs and human trafficking**. India faces threat of **external state-sponsored terrorism** as well as **self-radicalized domestic terrorism**. A comprehensive doctrine will help in addressing these challenges.

New Challenges: The rising Indian economy is facing **new challenges**. **Cyberterrorism**, attacks on critical infrastructure have the ability to stall economic engine. The former CDS had talked **2.5 front war and hybrid warfare**. Climate Change and **climate-induced migration** can also create potential security threats. A National Security Doctrine should foresee and **anticipate these challenges** and guide the response.

What should be the constituents of the India's National Security Doctrine?

A think-tank has provided a possible approach to India's National Security Doctrine.

In the 21st century, India faces challenges of unprecedented scale and complexity that necessitate new ways of thinking about national security. In this scenario, India's national security doctrine should include "*yogakshema*" an idea pioneered in the Arthashastra (6.2.31,32), "*Strength is power. And well-being is the goal.*" The State must provide security, *kshema*, and economic opportunities, *yoga*, to all its citizens. To accomplish these goals, it is necessary to:

First, Create and defend a conducive environment for *yogakshema* (well-being, prosperity, and happiness) of all Indians. At this stage of India's development, national security is primarily focused on protecting and **promoting India's economic development**. As a **Swing Power**, India must seek to shape the world's political, economic, technological order and defend India's interconnectedness with the world.

Second, Protecting the constitutional order, individual freedom, the territory, social cohesion, and national resources: **(a)** Securing the Republic of India and its institutions; **(b)** Protecting the rights of all Indians; **(c)** Comprehensive view of territory including land, sea, air, space, and cyberspace; **(d)** National strength ultimately derives from social cohesion; **(e)** Sustain and enhance natural, environmental, and social capital.

Third, Amass and project power across all domains: **(a)** Develop both continental and maritime power projection capabilities; **(b)** Develop comprehensive deterrence across all domains; **(c)** Humane and effective management of internal security; **(d)** Develop intelligence as a credible instrument of statecraft

Fourth, Reimagine national security capacity: **(a)** Boost the fighting spirit of the armed forces; **(b)** “Whole of Government” approach to national security management. The Government should deploy the wide array of economic, military and diplomatic tools to counter potential threats. This includes market access, visa controls, investment deals, diplomatic support, and so on; **(c)** Nurture a globally competitive defence technology industry; **(d)** Build leadership across government that understands the prudent use of power.

What is the significance of National Security Doctrine?

A national security doctrine will be a key part of internal security in the following ways:

First, It would help make decisions that are timely and useful because they would be based on the doctrine’s national security strategy.

Second, the Doctrine would guide various sub-doctrines related to external and internal security. It will fill a huge void in the higher defence management of the country.

Third, the Doctrine would ensure a uniform security response taken during times of crises.

Fourth, It would help in maintaining effective coordination among security establishments at both the Union and State levels, hence averting terror attacks that occur even when intelligence agencies have input but fail to prevent the assaults owing to a lack of cooperation.

Fifth, National Security Doctrine would help protect India’s national interests that would ensure peace, growth, and development of the country.

What are the possible challenges in the implementation of National Security Doctrine?

First, It has been difficult to arrive to a consensus on India’s national interests under the current political system, which is a multi-party democracy with representatives from across the ideological spectrum. Moreover, pre-occupation with electoral politics and outcomes have led to compromise on some aspects of national security to an extent.

Second, It would be difficult to bring consensus among the various stakeholders like the Government and the Armed Forces and within the three services.

What should be done going ahead?

First, Armed forces need to quickly step up to the warfare in the digital age. Emerging strategic technologies like Artificial Intelligence, robotics and miniaturised wars are likely to play an increasingly important role in future warfare. Given the transformed nature of warfare, down-sizing the forces, by **substituting manpower with smart technology** and innovative tactics, has become an imperative need.

Second, The doctrine must encompass all major domains that have implication for India’s National security like Economic, Military, Internal, External, Technological and Environmental etc.

Third, The ‘strategic communication’ aspect of national security is of utmost importance and needs to be strengthened. The construction of a command, control, and communication centre is required.

Conclusion

India has a large and diversified population which could pose significant social and economic problems. India’s security and stability are being threatened by the radicalization of its neighbours, which is quickly turning into an **arc of insecurity** due to the rise of militancy, terrorism, and social unrest. There are issues of ecology and sustainability. All these things threaten India’s well-being and has the potential to slow economic progress. The significant

number of new threats have surfaced in recent times and this demands that they be defined and comprehended in their entirety. The many things that affect national security have an effect on almost everything, and their effects need to be taken into account by every Institution, and Executive body of the State. This is only possible when India has its own national security doctrine.

Syllabus: GS II, India and its neighbourhood relations.

Source: [ORF](#), [Takshashila Institution](#), [Delhi Policy Group](#)

Crowd Disasters and NDMA Guidelines – Explained, pointwise

Introduction

A series of crowd disaster incidents have led to deaths of more than 400 people recently. On October 01, 2022, a human crush occurred in a football stadium in East Java, Indonesia that killed 135 people. On October 29, 2022, a crowd crush occurred during Halloween festivities in Seoul, South Korea that killed more than 150 people and injured another 170+ people. On October 30, 2022, a bridge collapse due to overcrowding led to deaths of more than 135 people. Although the dynamics of each of these three scenarios were diverse, experts agree that inadequate planning and management of crowds led to the calamities that occurred. In context of India, the National Disaster Management Authority has issued guidelines (NDMA Guidelines) for managing crowd at venues of mass gathering and avoiding crowd disasters.

What are the causes behind Crowd Disasters?

Broadly, the causes behind crowd related disasters have been categorised into 6 categories.

Structural: This includes: **(a)** Structural collapse of makeshift bridges, railings, temporary structures etc.; **(b)** Improper and unauthorised structures; **(c)** Railings of the bridge collapse due to panic triggered by rumours; **(d)** Difficult terrain (famous religious sites built on top of hills that are difficult to access); **(e)** Narrow streets with very few entry/exits; **(f)** Absence of emergency exits etc.

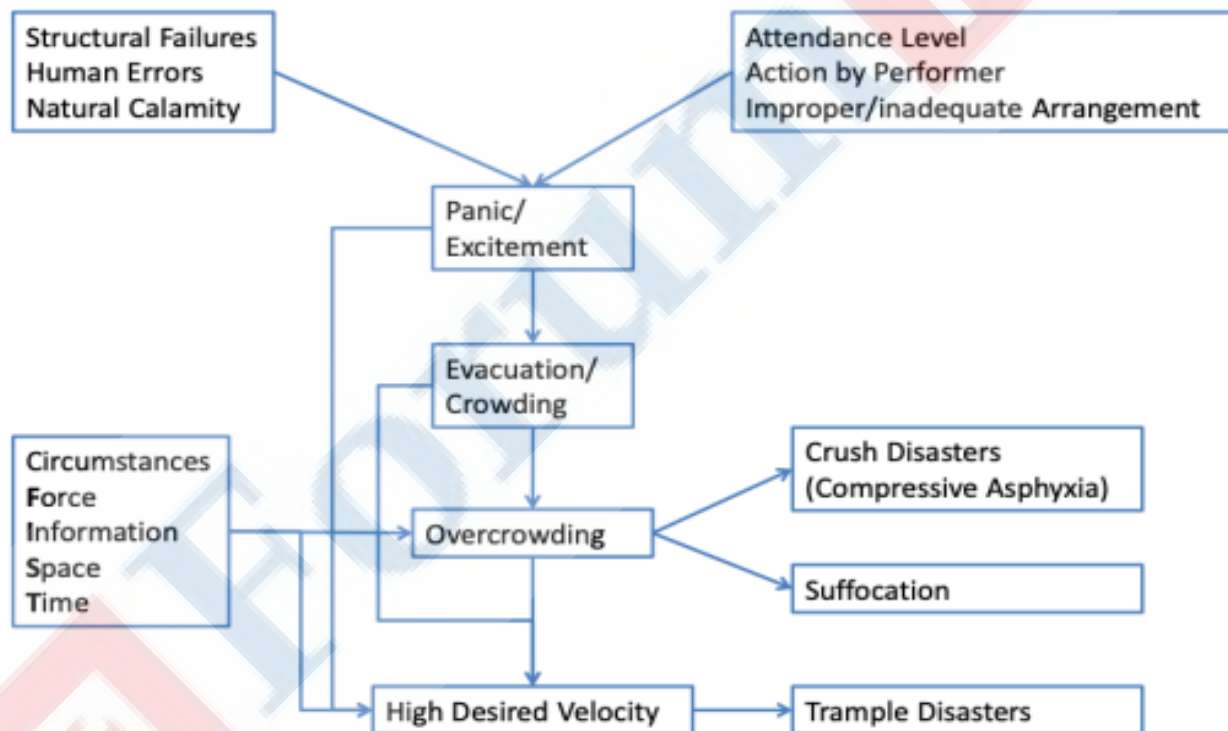
Fire/Electricity: This includes: **(a)** Fire in a makeshift facility or a shop; **(b)** Fire at illegal and unauthorised structure; **(c)** Wooden structure/ quick burning acrylic catching fire; **(d)** Non-availability of fire extinguishers in working condition; **(e)** Building and fire code violations; **(f)** Unauthorized fireworks in enclosed places; **(g)** Electricity supply failure creating panic and triggering a sudden exodus; **(h)** Illegal electric connections; **(i)** Faulty electric equipment etc.

Crowd Control: This includes: **(a)** More than anticipated crowd at store/mall/political rallies/ examinations/ religious gatherings/ public celebrations; **(b)** Underestimation of audience, staffing, services; **(c)** Closed/locked exit, Sudden opening of entry door, Reliance on one major exit route; **(d)** Lack of adequate and strong railings to marshal the queue; **(e)** Lack of proper public address system to control the crowd etc.

Crowd Behaviour: This includes: **(a)** A wild rush to force the way towards entrance/exits; **(b)** Crowds forcing to entrance/exits a venue after the start/closing time; **(c)** Rush during distribution of disaster relief supplies; **(d)** Free distribution of gifts/goods triggering a surge and crush; **(e)** A large (much more than expected) anxious and competitive crowd gathering at promotional events; **(f)** Unruly and irresponsible crowd behaviour; **(g)** Last minute change in platform for train arrival/departure resulting in lots of movements within short period of time etc.

Security: This includes: **(a) Security Personnel:** **(i)** Under deployment of security staff and deployment of untrained staff; **(ii)** Lack of adequate rehearsals and briefing of security personnel on crowd control; **(iii)** Lack of adequate scientific planning in making police arrangement to deal with crowd with proper sectoral deployment; **(iv)** Lack of proper wireless deployment; **(v)** Ineptitude of the police in effectively managing the crowd and enforcing prohibitory orders; **(b) Surveillance:** **(i)** Lack of adequate observation towers with proper wireless communication to monitor and regulate crowd; **(ii)** Lack of adequate CCTV surveillance of the crowd; **(iii)** Absence of public announcement systems or effective wireless system with the police; **(c) Infrastructure:** **(i)** Lack of adequate road opening parties to secure the routes; **(ii)** Lack of adequate metal detectors and frisking of pilgrims entering the pilgrimage area or persons entering the gathering area etc.

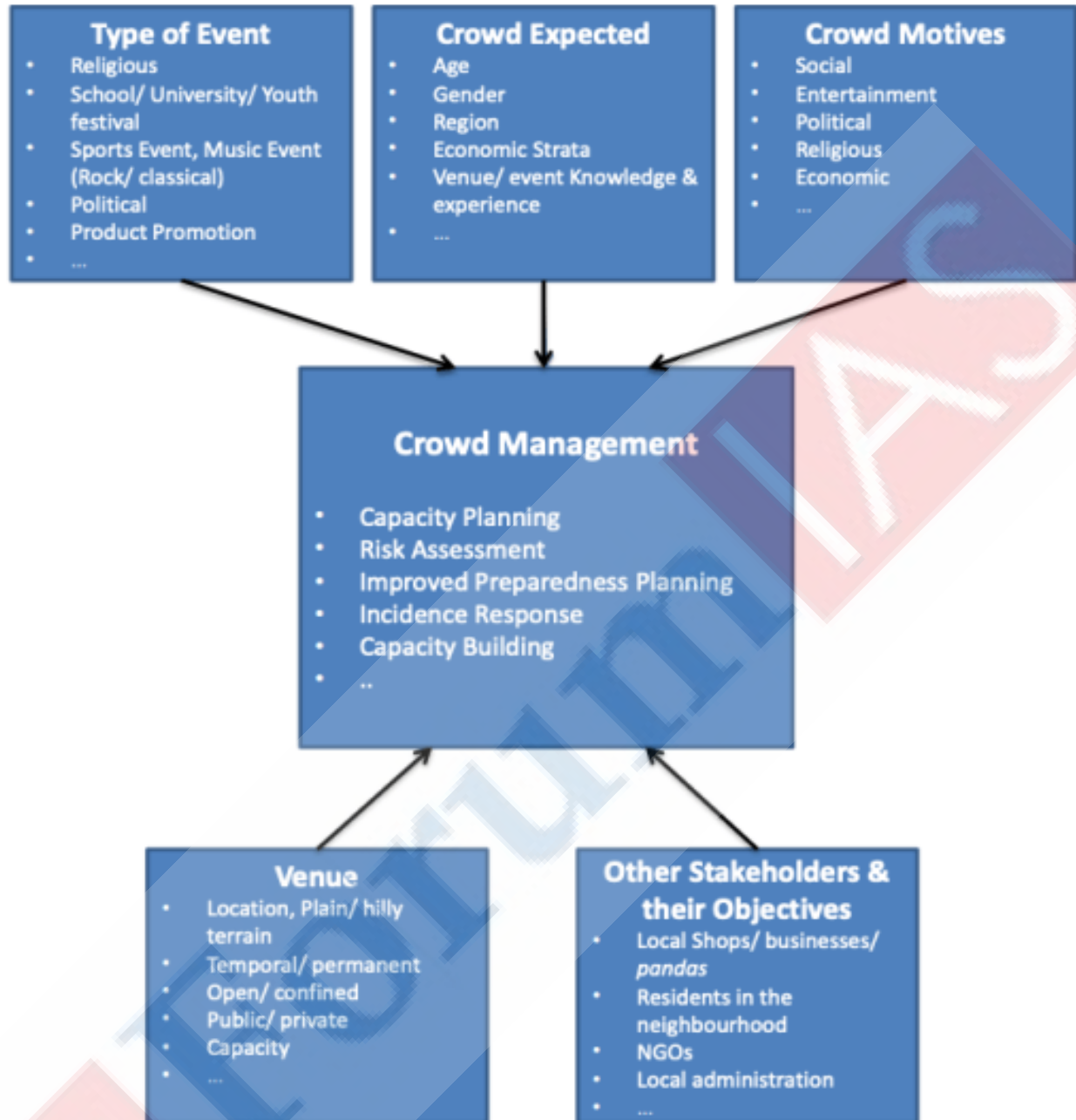
Lack of Coordination between Stakeholders: **(a)** Coordination gap between agencies (e.g. Police and District Magistrate; PWD, Fire Service, Forest officials, Revenue officials, Medical officers etc.); **(b)** Poor infrastructure (Plans on paper but no implementation due to lack of funds, resources, or will); **(c)** Inadequate water, medical assistance, public transport/parking facilities; **(d)** Communication delays; **(e)** Vacant/late/delayed posting of key personnel etc.



Source: NDMA. Crowd Disaster Process

What are the NDMA Guidelines to manage Crowd Disasters?

The NDMA has issued guidelines for Managing Crowd at Events and Venues of Mass Gathering based on integrated approach for crowd management.



Source: NDMA. *Integrated Approach to Crowd Management*

Planning for Crowd Management Strategy and Arrangements
This includes

Understanding venue, visitors and stakeholders: The basic element for event planning and crowd management is understanding the venue, visitors and different stakeholders. It requires understanding of **type of event** (religious, youth festival, school/university event, cricket/sports event, music concerts, political gathering), **season**, the **venue** (temporal/permanent, open/confined spaces, plain/hilly terrain), **type of crowd expected** (age, gender, region, locals/visitors, people with special needs etc.), **motives of various visitors** (social,

entertainment, political, religious, economic etc.) and **unwanted visitors** (theft, disruption, terror etc.).

Crowd Management Strategies: The various elements of crowd management strategy are: **(a)** Capacity Planning (long term and short term); **(b)** Understanding Crowd Behaviour; **(c)** Crowd Control; **(d)** Stakeholder approach.

Capacity planning includes a long term perspective for infrastructure development e.g., provision of adequate facilities based on popularity and expected crowd at the events. Facilities should also include crowd monitoring and management infrastructure.

Individual behaviour in a crowd is sometimes influenced by the behaviour of others. Research has shown that understanding of **crowd behaviour** has led to **community based approach to crowd control** instead of force based control. The unlawful actions of a few people can result in larger numbers following them. Action should be taken immediately with tact and firmness, without inviting undue attention from the general public. Special attention should also be given to border of the venue and the floating crowd moving there because the mischief is usually caused at such places.

The guiding principle for **crowd control** should be managing demand – supply gap through **(a)** Controlling the crowd inflow; **(b)** Regulating the crowd at the venue (e.g., Barricade facilities to control the movement of crowd, Snake line approach etc.); **(c)** Controlling the outflow, if needed

Organizers, Law enforcement agencies must rethink crowd control and encourage **community stakeholders** (NGOs, Business Associations, Schools/ colleges, Neighbourhood societies/associations) to take ownership in events for unity of purpose, faster decisions/response, better coordination etc. A **Unified Control Structure** is recommended.

Risk Analysis and Preparedness: This includes identification of threats, assessment of risks, planning and developing appropriate course of action.

Information Management and Dissemination: In the absence of necessary information, people may panic leading to undesirable behaviour. Appropriate information and its dissemination is a useful tool in managing crowds. Communicating with visitors and providing them with the correct information is a very critical factor in all situations. **Timely information exchange between various stakeholders** viz. event management, government administration, security agencies, NGOs, media, and local population etc. can ensure that crowd gathering events run smoothly and successfully without any untoward incidents. This includes **(a)** Proper briefing by the organizers; **(b)** Police, Fire, Ambulance numbers; **(c)** Event route maps with entry/exit points; **(d)** Dos and don'ts to ensure smooth movement of crowd ; **(e)** Proper signages etc.

Safety and Security Measures: The organisers should ensure authorised use of electricity, fire safety extinguishers and other arrangements as per the safety guidelines. Use of CCTV cameras and UAVs to monitor crowds can prevent stampede incidents. Guidelines related to fire electrical safety (like adherence to fire standards) should be ensured.

Facilities and Emergency Medical Services: The need is to ensure availability of trained first-aid staff, kits, adequate stretches, emergency life saving medicines and devices, ambulances, mobile hospitals/teams, hospital disaster management plans etc. to ensure quick response in case of any untoward incident. The state/district administration should accordingly equip, train and prepare the doctors and the other staffs of the medical department.

Transportation and Traffic Management: The guiding principles in transportation and traffic management should be to use public transport as much as possible and **minimize the impact of undesirable crowd and traffic.**

Execution

A strong **Incident Response System (IRS)** should be in place. Efficient functioning of **command and control** is single most important component of Crowd Management. Command and control should have unity and chain of command with built in organizational flexibility, an **integrated information management and communication system, media management** and personal accountability. Staff should be adequately trained. Roles and responsibilities of various stakeholders (administrators, police officers etc.) should be clearly defined.

Role of Media

In crowd management, media can play the multiple roles **(a) Educational:** Media can educate public about the possible disaster threats, ways to prevent them and how to be better prepared in the face of a disaster; **(b) Critical:** Media can critically evaluate the disaster management plans to highlight the gaps for correction; **(c) Suggestive:** Media can help generate, through debates/discussions, expert opinions on long term policies for disaster management and relief measures.

Media can also help in **disaster management** e.g., **(a)** Before disaster (analysis of sources of risks, controlling law and order by keeping an eye on anti-social elements); **(b)** During disaster (providing accurate information and countering misinformation, advise public about do's and don'ts, facilitate resource mobilization); **(c)** After disaster (inform the public on post-disaster rehabilitation efforts, help generate expert opinions through debates/discussions etc.)

Media must also adhere to **Code of Conduct**. Media must be objective, factual and sensitive. Media must inform and educate the people, not alarm or scare them.

Use of Technology (ICT)

The use of Information and Communication Technology can be a main enabler to improve the crowd experience and crowd control.

ICT for Disaster mitigation and Prevention	ICT in Disaster response and relief
Technology <ul style="list-style-type: none"> • GIS, Remote Sensing • Radio, Television, telephone • SMS, UMS, Cell Broadcasting, Internet/Social Media • RFID • Space based sensors and balloons 	Technology <ul style="list-style-type: none"> • PA system, SMS, UMS, Cell Broadcasting, Inter-operability of mobile service providers • Emergency lighting, alarms • RFID Tags • Registration database software • Space based sensors and balloons
Typical Usage <ul style="list-style-type: none"> • Early warning system, Potential Risks, Vulnerabilities • Registration of visitors, Virtual Queues, RFID • Information dissemination • To regulate flow of visitors • Prepositioning of resources 	Typical Usage <ul style="list-style-type: none"> • To ensure rumours do not spread • Registering missing persons • Search and rescue • Keeping track of relief organizations, Camps of displaced persons • Insurance processing • Resource inventory management

Source: NDMA. Use of ICT in Crowd Management.

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ICT can be used to register and keep database of all visitors. CCTVs and UAVs can be used to monitor crowds to forewarn and prevent overcrowding.

What should be done going ahead?

Specialisation and Professionalism: To maintain the decorum of the crowd in huge events, India needs to emphasize effective communication, stringent selection criteria, sensitive on-ground interventions, specialized personnel training, safety insurance, online customer feedback system, transparency, statutory compliances and professionalism.

Technology: Latest technology such as CCTV surveillance with HD IP cameras with VMS (Video Management Software), mobile control room with remote connectivity through satellite and response mechanism, drones for roof level surveillance and public address system, face recognition among crowds and robotic support etc. should be deployed extensively in crowded places.

Capacity Evaluation: There should be proper evaluation of the capacity of a location or structure before holding mass gatherings. Existing infrastructural problem should be addressed to avoid mishaps.

Behaviour Management: Emerging researches show that crowd behaviour in a given situation can be different, and less rational, than individual behaviour. There should public address system, whereby officials can stop rumours from getting out of hand, calm panicked crowds, and help people exit in a systematic manner.

Penalties: Stricter penalties, revoking licenses for construction/fire safety violations, random checks and inspections can ensure compliance. Certification and training of private security agencies should also be ensured.

Legislation/Rules and Regulations: Supreme Court in Uphaar Cinema Tragedy observed that there is a need for a comprehensive legislation dealing with tortuous liability of the State.

Engaging NGOs: The Local Civilian Organisation must be actively engaged in the event for capacity building of event managers etc, for easy mobilization of local resources, better preparedness and traffic control etc.

Conclusion

Crowd management has been underestimated in India, but it should be prioritised, especially in today's era. The majority of catastrophic events involving large crowds are caused by human error. These catastrophes can be avoided if the relevant authorities engage in proactive planning and implementation. Apart from that, it is important to analyse and gain knowledge from previous errors. Everyone in society has a stake in finding ways to reduce the risk of crowd disasters. While the Government should lead the way, the general public also has a major responsibility in avoiding such disasters in future.

Syllabus: GS III, Disaster and Disaster Management.

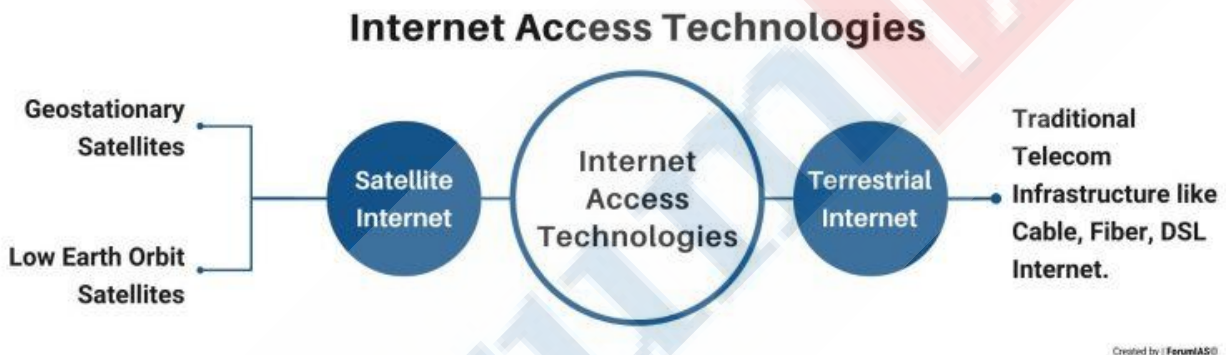
Satellite Internet: Working, Advantages and Challenges – Explained, pointwise

Introduction

In October 2022, ISRO successfully deployed 36 low earth orbit (LEO) satellites for Bharti Group's OneWeb. With this deployment, OneWeb has come closer to the commercial launch of its Satellite Internet services. The company has deployed 70% of planned satellite fleet (462 out of planned 648). In September 2022, Reliance Jio received approval from the Department of Telecommunications (DoT) to offer global mobile personal communication by satellite (GMPCS) services in India. This has spiced up the competition in the satellite internet space in India.

What is Satellite Internet?

A satellite internet connection **uses communication satellites to provide internet connectivity** to the users. Earlier the space internet services utilized Geostationary Orbit (or GEO) Satellites but now increasingly in Low Earth orbit (LEO) satellites are being deployed. Space Internet isn't dependent on optic fibers or phone lines. Satellite internet works similarly to satellite TV.



How does Satellite Internet function?

Infrastructure

Space Internet relies on 3 components: **(a)** A satellite (mostly in Low Earth orbit (LEO)); **(b)** A number of ground stations known as **gateways**. Gateways **relay Internet data to and from the satellite via radio waves** (microwaves); **(c)** Further ground stations to serve each subscriber, with a small antenna and transceiver. Transceiver consists of both transmitter and receivers. It can both transmit and receive radio waves.

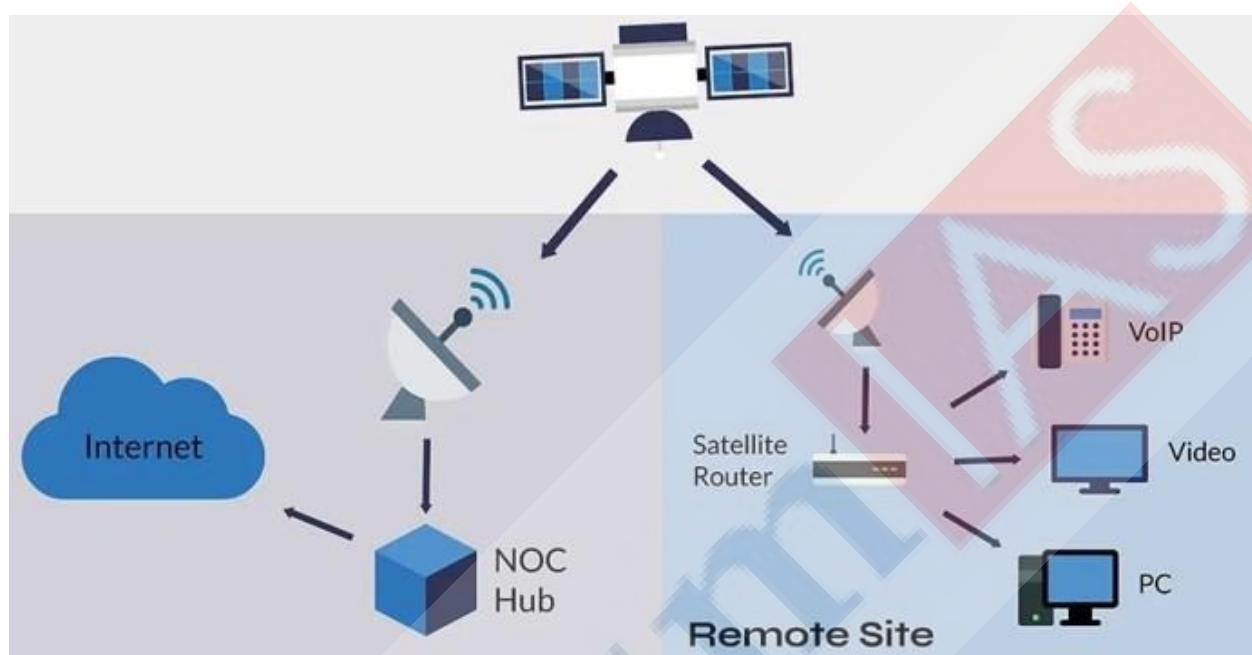
Other components of a Space Internet system include a **modem** at the user end which links the user's network with the transceiver, and a centralized **Network Operations Centre (NOC)** for monitoring the entire system. All network communication passes through the network's central hub processor. With this configuration, the number of ground stations that can be connected to the hub.

Satellite internet uses three satellite dishes: one at the service provider's Centre (NOC), one in space satellite, and one on user premises.

Flow of Signals

Every request a user makes (for a new page, a download, an email, etc.) is sent to the satellite dish. The satellite dish sends it to the ISP's hub. The Hub processes the request (page, download or email) and sends the signal back to the Satellite. It is then relayed back to the user's dish and finally to the user's computer.

Radio waves are used to communicate with satellites orbiting the Earth. Data is delivered and received via a communication network that begins with the user's device and continues through the user's modem and satellite dish, out to a satellite in orbit, and finally back to Earth to the network operations centre (NOC). User will need electricity to keep the receiver dish powered. Clear view of sky is necessary for the functioning of the space internet.



Source: Wikimedia Commons.

What are the advantages of Satellite Internet?

First, It is faster than terrestrial dial-up internet. Satellite internet speed is 10x to 35x times faster than dialup internet.

Second, Space internet connections can handle high bandwidth usage, so internet speed/quality isn't be affected by lots of users or 'peak use'.

Third, Internet user don't need a phone line for satellite internet.

Fourth, the biggest advantage over other types of internet is **accessibility**. Satellite Internet is accessible in places where internet services aren't otherwise available. Satellite service is good for residents of rural areas and in places where traditional telecom infrastructure (like cable, fiber, or phone wiring) isn't in place. It can help provide connectivity to people who live in the outer suburbs, small towns, developing nations, and rural areas.

Fifth, Satellite Internet can work better than terrestrial systems in case of disasters (provided dish is intact). Terrestrial networks go down when towers etc. are damaged during natural calamities.

What are the challenges associated with Satellite Internet?

Speed and Bandwidth: Terrestrial Internet provided by fibre cables has much higher speed and bandwidth compared to satellite based internet. Earlier the speed of satellite internet used to be extremely slow and offered download speeds of around 750 Kbps. Advancements in technology and new satellites have helped to increase bandwidth to ~150 Mbps. In contrast, 5G can reach top speed of 20 Gbps.

Higher Latency: The time taken to send and receive data is known as latency. For Space Internet, latency is the time it takes for data to go from user's system through the complete network (satellite, ISP NOC and internet) and back to the user. Due to longer path (via Satellite), it has higher latency than terrestrial internet. Cable and fiber internet offers latency in the range of 20 to 50 milliseconds (ms), whereas Space internet ranges can be as high as 600 ms. Higher latency limits its utility for applications like gaming. It is more suitable for simpler activities like web browsing, emailing etc.

Impact of Weather: Satellite Internet is frequently disrupted by storm-related interruptions (rain fade). Heavy snowfall can also result in break in services.

Cost: Satellite internet is comparatively more expensive than cable or fiber internet. It is very expensive to establish a network of satellites to provide the services.

Solar Storms: Starlink lost 40 satellites in February 2022 from a geomagnetic storm.

What are the various initiatives related to Satellite Internet?

According to one estimate, the Satellite Internet market is expected to reach US\$ 16 billion globally by 2030.



Source: Business Standard

Hughes Communications India (HCI), has launched India's first **high throughput satellite (HTS)** broadband service powered by ISRO satellites in September 2022. (HTS is a communication satellite that provides more throughput than conventional communication satellites or Fixed Satellite Service).

OneWeb A private company called OneWeb (Backed by the British Government) has successfully put 254 satellites, or 40% of OneWeb's planned fleet of 648 LEO satellites that will deliver high-speed, low-latency global connectivity. OneWeb intends to make global service available in 2022-23. In July 2020, OneWeb was purchased by **Bharti Global** (Airtel)(a former OneWeb partner) and the Government of the United Kingdom.

Starlink (owned by Elon Musk) has launched around 2,300 satellites and has roped in over 500,000 customers across 40 countries offering internet services in Europe, Japan, New Zealand etc.

Reliance Jio Platforms has teamed up with SES, a European satellite-based broadband service provider, to get into the satellite internet market.

The **Tata Group** has tied up with Canadian firm Telesat to offer LEO-powered satellite internet services by 2024.

Project Kuiper: Amazon announced this project in 2019.

Loon Project: In 2013, Google started the “Loon” project, which uses high-altitude balloons to make a wireless network in the air. Alphabet, which owns Google, gave up on the project in 2021 after testing the service in rural Kenya.

Conclusion

Satellite Internet offers exciting opportunities in providing internet connectivity in remotely accessible areas. As the digital economic footprint expands, it can help plug the digital gap and ensure inclusive development. There are some challenges that limit the effectiveness of space internet services. However, with the advancement of technologies, these challenges can be addressed. Many experts contend that satellite internet is the future.

Syllabus: GS III, Science and Technology: Developments and their applications and effects in everyday life; GS III, Awareness in the fields of IT, Space, Computers.

Source: [The Times of India](#), [Indian Express](#), [Business Standard](#)

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

Introduction

The All India Institute of Medical Sciences, Jodhpur (AIIMS) has been included as a Centre of Excellence (CoE) for Rare Diseases under the National Policy for Rare Diseases, 2021. This is expected to enhance the research and access to treatment for rare diseases. Recently, the Director of Centre for DNA-Fingerprinting and Diagnostics (CDFD) observed that 95% of rare diseases do not have a single FDA approved drug for treatment. This shows the challenges associated with treatment of rare diseases. The Government has been commended for coming up with National Policy for Rare Diseases, 2021 to bring focus on rare diseases. However, health experts have pointed out certain gaps in the policy which must be addressed to make it more effective.

What are Rare Diseases?

There is no single, agreed-upon definition of Rare Diseases. Generally speaking, a rare disease is one that occurs rarely. Different countries have different definitions of rare disease; and all definitions are based on how often the disease occurs per 1,000 or 10,000 people.

According to the **World Health Organization (WHO)**, Rare diseases have a **prevalence of 1 or less in every 1,000 people or less**. Other nations’ definitions vary depending on their unique populations, healthcare infrastructures, and other factors (like disease severity, threat to life, availability of alternative treatment options, heritable etc.). In the US, rare diseases are defined as a disease or condition that **affects fewer than 200,000 patients in the country (or 6.4 in 10,000 people)**. In the European Union, a disease is defined as rare when it affects fewer than 1 in 2,000 people (**5 in 10,000 people**). Japan identifies rare diseases as diseases with **fewer than 50,000 prevalent cases (0.04% or 4 in 10,000)** in the country.

According to the National Health Portal (Government of India), there may be **~7,000 rare diseases. ~70% of rare diseases are genetic in origin**. Globally, there are **300 million people** living with a rare disease.

According to the National Policy for Rare Diseases document, **India has close to 50-100 million people who are affected by rare diseases or disorders**. Almost **80%** of these rare condition patients are **children**. The policy report says that the **high morbidity and mortality rates** of these life-threatening diseases are a leading cause for the majority of these children not reaching adulthood.

Example of rare disease include Inherited cancers, Autoimmune disorders, Congenital malformations, Hirschsprung's disease, Gaucher disease, Cystic fibrosis, Muscular dystrophies and Lysosomal Storage Disorders (LSDs).

What are the challenges associated with Rare Diseases?

Varying Definitions: The use of varying definitions and diverse terminology can result in confusion and inconsistencies and has implications for access to treatment and for research and development.

Diagnosis of rare diseases: Early diagnosis of rare diseases is a challenge owing to multiple factors that include: **(a)** Lack of awareness among primary care physicians; **(b)** Lack of adequate screening and diagnostic facilities.

For instance, According to Rare Disease Impact Report, it takes patients in the US and the UK an average of 7.6 years and 5.6 years respectively, to receive an accurate diagnosis. The process typically involves as many as 8 physicians (four primary care and four specialists). In addition, two to three **misdiagnoses are typical** before arriving at a final diagnosis. Delay in diagnosis or a wrong diagnosis **increases the suffering** of the patients exponentially.

Research and Development: There is relatively **little knowledge about the pathophysiology** or the natural history of these diseases. Rare diseases are difficult to research upon as the **patient pool is very small** and it often results in **inadequate clinical experience**. Therefore, the clinical explanation of rare diseases may be skewed or partial. The challenge becomes even greater as rare diseases are **chronic in nature**, where long term follow-up is particularly important. As a result, **rare diseases lack published data** on long-term treatment outcomes and are often incompletely characterised.

Challenges in Treatment: **(a) Unavailability of Treatment:** Availability and **access to medicines** are important to reduce morbidity and mortality associated with rare diseases. Despite progress in recent years, **effective or safe treatment is not available for most of the rare diseases**. Hence, even when a correct diagnosis is made, a therapy may not available for the disease. There are between 7,000 – 8,000 rare diseases, but less than 5% have therapies available to treat them. **About 95% rare diseases have no approved treatment** and less than 1 in 10 patients receive disease specific treatment; **(b) Prohibitive Cost of Treatment:** As the number of persons suffering from individual rare diseases is small, they do not constitute a significant market for drug manufacturers to undertake R&D and develop drugs. For this reason, rare diseases are also called '**orphan diseases**' and drugs to treat them are called '**orphan drugs**'. When the drugs are available for a rare disease, the **prices are extremely high** apparently to recoup the cost of research and development.

It is estimated that for a child weighing 10 kg, the annual cost of treatment for some rare diseases, may vary from INR 10 lakh to more than 1 crore per year with treatment being lifelong and drug dose and cost, increasing with age and weight.

What are the salient features of National Policy for Rare Diseases, 2021?

Aim: The policy aims to lower the incidence and prevalence of rare diseases based on an **integrated and comprehensive preventive strategy**. The strategy includes **awareness generation, counselling programmes, providing affordable Health Care** among others.

Categorisation: The policy categorizes rare diseases into three groups: **(a) Group 1:** Disorders amenable to one-time curative treatment; **(b) Group 2:** Diseases requiring long term or lifelong treatment; **(c) Group 3:** Diseases for which definitive treatment is available, but challenges are to make an optimal patient selection for benefit.

Government Support: **(a)** The government will provide Financial support of up to INR 20 lakh under the Umbrella Scheme of *Rashtriya Arogya Nidhi* for treatment of those rare diseases listed under Group 1; **(b)** Beneficiaries for such financial assistance would not be limited to BPL families. About 40% of the population, eligible under *Pradhan Mantri Jan Arogya Yojana*, will also be eligible for assistance; **(c)** For group 2, the State Governments can consider supporting specific patients. It includes a rare disease that can be managed with special diets or hormonal supplements or other relatively low-cost interventions (Diseases listed under Group 2).

Voluntary Crowdfunding: The Government will assist in voluntary crowd-funding for the treatment of Group 3. It is because it will be difficult to fully finance the treatment of high-cost rare diseases of Group 3.

Centres of Excellence: The initiative intends to **boost tertiary health care facilities** for preventing and treating uncommon diseases by designating certain premier Government tertiary hospitals as 'Centres of Excellence'. These would also receive up to INR 5 crore for upgrading testing facilities.

Nidan Kendras: *Nidan Kendras* will be set up by the Department of Biotechnology (DBT) under Unique Methods of Management and treatment of Inherited Disorders (UMMID) project for genetic testing and counseling services. These *Kendras* will be set-up for screening, testing, and counselling of rare diseases and also provide treatment if the facilities exist.

National Registry for Rare Diseases: Nationwide hospital-based registry of rare diseases will be created so researchers have appropriate data and definitions.

What are the concerns associated with the National Policy for Rare Diseases?

Lack of Definition: The Policy does not define rare disease in India due to lack of adequate data. Instead it has provided for creation of a hospital based **National Registry for Rare Diseases** under the ICMR to collect the much needed epidemiological data for rare diseases. For now **3 categories** have been provided (listed above). Absence of definition will impact diagnosis and possible treatment.

Neglect of Group 3 patients: Unlike conditions under Group 1 and Group 2, patients with Group 3 disorders require sustainable treatment support. Due to absence of long-term funding support, they are at greater risk and dependent upon crowd-funding, which is not very reliable.

Lacking support from States and UTs: National registry has been set up by ICMR (in 2017) to prepare a database of rare diseases in India. This is essential to arrive at a definition of rare diseases. Only 12 States and 4 UTs have approved institutions that have the facility of qualified investigators for the identification and diagnosis of rare diseases.

Absence of Proper Mechanisms: The policy does not lay out clear guidelines regarding the coordination required among the various levels between all stakeholder institutions e.g., there is heavy reliance on healthcare workers to undertake screening activities for early diagnosis. After diagnosis there is a need for procedure for patients for further treatment (like referral of institute). There is a need of framework for reporting the data from health care workers to tertiary hospitals, Centres of Excellence, and *Nidan Kendras* etc. Such guidelines and frameworks are absent.

There is no referral mechanism to access the *Nidan Kendras* and Centres of Excellence stated in the policy. This would result in the unavailability of data to build the registry.

Cost Sharing: In the previous policy, there was no clarity on cost sharing. The current Policy says that the Union Government will cover costs, but there is no clarity on the implementing the proposed benefits. The policy lacks a cross-control system for diagnosis, preventive, and financial aid.

Financial Support: The current policy says that all diseases will get the same amount of money (INR 20 lakh), even if treatment costs INR 10 lakh or INR 10 crore. For funds to be used more effectively, a cap on financial help needs to be set by disease, and a more centred approach to the problem is needed.

Empanelment: There is no guideline on empanelment of hospital and claim of funds in case of any rare disease diagnosed.

Drug Manufacturing: The Policy states that the pharmaceutical industries would be encouraged to develop drugs for rare diseases with appropriate policy support (like tax benefit and research grants etc.). However, no such policy has been formulated so far. The absence of incentives to domestic drug manufacturers to invest funds into the R&D severely limits the ability to develop new drugs.

What should be done going ahead?

The Government should address the gaps in the National Policy for Rare Diseases.

Comprehensive Definition: A more reliable approach to arriving at a definition could be based on the factors like location, level of rarity among others.

Awareness Generation: There is an immediate need to create awareness amongst general public, patients & their families and doctors, training of doctors for early and accurate diagnosis, standardization of diagnostic modalities and development of newer diagnostic and therapeutic tools.

Collaborations: There is need to explore **international and regional cooperation for research**, collaborations with the physicians who work on any rare disease and with patient groups and families dealing with the consequences of these disorders. This will help **gain a better understanding of the pathophysiology of these diseases**, and the therapeutic effects that would have a meaningful impact on the lives of patients. There is also a need to review and modify clinical trial norms keeping in mind the particular challenges in rare diseases, without compromising on the safety and quality of the drugs or diagnostic tools.

Transparency: There should be transparency in setting prices of drugs and for price control for drugs for rare diseases.

Resource Utilisation: As resources are limited and have multiple uses, the policy makers have to make choice of prioritizing certain set of interventions over others.

Center-State Cooperation: Public Health and Hospitals are State subjects. The Union Government should encourage and support the States in their endeavour towards screening and prevention of rare diseases through Centres of Excellence and *Nidan Kendras*.

Policy on Orphan Drugs: The Government must come up with appropriate policy measures for supporting R&D and drug development for rare diseases.

Global Experience: (a) **USA:** Orphan Drugs Act, incentivises industry by way of market exclusivity, grants to researchers and tax incentives on expenditure incurred during drug development; (b) **EU:** The **European Joint Programme on Rare Disease** focuses on research for treatment of rare diseases; (c) **UK:** The National Health Service (NHS) England provides that the treatment for Spinal Muscular Atrophy (SMA) will be made available to the youngest and most severely-affected (SMA Type 1) patients immediately by Biogen (Pharma company that manufactures treatment for SMA), with NHS England offering funding on National Institute for Health and Care Excellence (NICE) publication of final guidance; (d) **Singapore:** A Rare Disease Fund – has been created to fund five medicines to treat three rare disease conditions; (e) In Malaysia and Australia **subsidised access to expensive and lifesaving drugs** is provided for eligible patients.

Conclusion

The National Policy for Rare Diseases, 2021 has some commendable provisions and initiatives to improve the situation with respect diagnosis and treatment of rare diseases. However, the Government must step up efforts to address the shortcomings in the Policy. The most urgent need is to support the development of life-saving drugs through appropriate policy support.

Syllabus: GS II, Government policies and interventions for development in various sectors and issues arising out of their design and implementation; Issues relating to development and management of Social Sector/Services relating to Health.

Source: [Ministry of Health and Family Welfare](#), [NHP](#), [Journal of Public Policy](#)

Moonlighting: Meaning, Benefits and Challenges – Explained, pointwise

Introduction

The issue of Moonlighting has witnessed an intense debate in the recent times. Wipro became the first major IT firm to sack over 300 employees for ‘moonlighting’ and took a very tough stance against staff who worked a second job outside their normal work hours. On the other hand, some IT companies and corporates have taken a more considerate view. Overall, the opinion is divided, some companies consider it unethical, some other deem it as a necessity.

What is Moonlighting?

Moonlighting refers to the practice of **working on a second job outside of regular work hours** for extra income. It may include taking up multiple assignments, projects, or gigs in addition to the one’s main job with a principal employer. The additional job/assignment is generally taken up for additional supplemental income.

Moonlighting is not defined under any statute in Indian employment laws. It is not necessarily the same thing as dual employment, which refers to a formal relationship between an employer and an employee and includes a number of legal responsibilities such as a minimum wage, provident fund, gratuity etc. It could also mean a second way to make money, like a side business or freelancing, that the main employer may or may not know about.

Many companies have clauses in their employment contracts which explicitly prohibit taking up of additional assignments, especially with rival firms in the same field/sector. However, this aspect has largely been neglected in most employment contracts, hence Moonlighting has remained in the grey zone.

What factors have enabled Moonlighting?

Flexible Work Hours: Work From Home (WFH) approach was adopted amidst the COVID-19 pandemic. The approach has continued post-pandemic with many firms offering flexible work hours to the employees. With the **constraint of physical presence in offices removed**, many employees get the opportunity to work in alternate jobs.

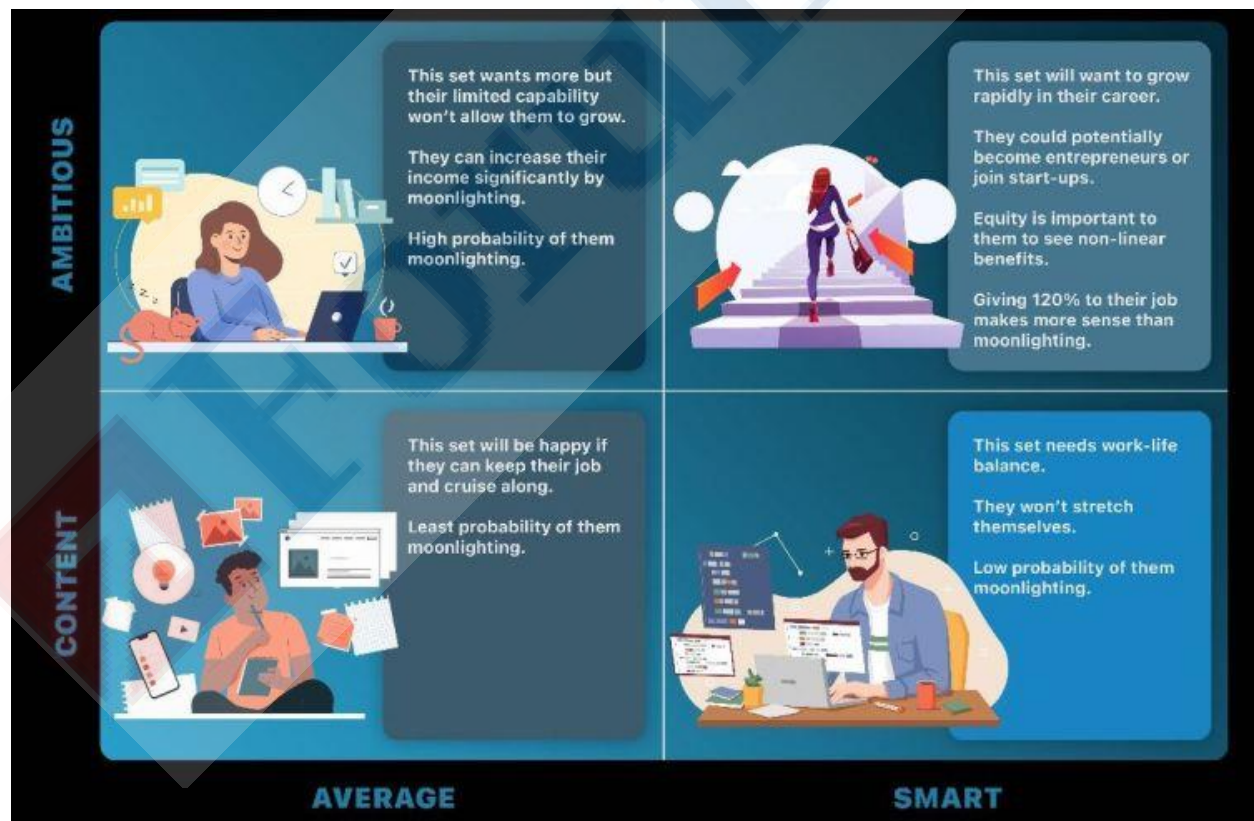
Technology: Technological tools like online video conferencing, cloud sharing, online workspaces (allowing sharing of information/documents) have **enabled remote working**. This facilitates moonlighting as the employees need not physically shuttle between different work locations.

Gig Economy: Gig economy involves part-time hiring of workers. Employment terms of gig workers are much more flexible because of part-time work. So Gig workers can take up multiple jobs.

Read More: [Gig Economy in India and the Issues faced by Gig Workers – Explained, pointwise](#)

Digital Economy: Digital economy has opened up numerous avenues of new opportunities. Many people work part-time as social media influencers after office hours. An Analyst working with Barclays Bank developed a new App (under45.in) during the COVID-19 pandemic which alerted the users whenever new slots for booking for vaccination were available on the COWIN platform.

According to a management consulting firm Zinnov, smart and ambitious employees have higher probability of engaging in Moonlighting activities. Content and average employees are least likely to engage in Moonlighting.



Source: Zinnov Management Consulting

What are the arguments in favour of Moonlighting?

Financial Benefits: Moonlighting allows people to earn additional/supplemental income. This helps them to meet their financial obligations and improve their living standards.

Up-skilling: Moonlighting can provide new learning and skilling opportunities e.g., under45.in was developed by a programmer who wanted to learn new programming skills and worked on this initiative after his regular work hours. **Up-skilling can help in job security** as high-skilled workers tend to be the last ones to be laid-off during economic downturns.

Expanding Opportunities: Taking a second job can expand the opportunities for workers. Many people who have been working for the same employer for many years can suffer from tunnel vision i.e., unable to see beyond their own industry and their own role in the company. Taking on a new job can provide **fresh new perspectives** and introduce workers to a new industry.

Learning about a new industry can also provide workers with expanded opportunities for additional employment.

Building a Better Network: A second job provides the opportunity to expand network of colleagues and business associates. A strong network helps in future employment opportunities.

Longer Retention: Some experts argue that Moonlighting can help employees to stay at their jobs longer because with supplement income they may not feel the pressure to look for another job where they can earn more money.

Social Life: Office colleagues and co-workers constitute a significant part of one's social life. Multiple jobs can help expand social life opportunities as well.

What are the concerns associated with Moonlighting?

Confidentiality: The primary concern companies have against moonlighting is data and confidentiality breaches. Employees having access to critical and proprietary information regarding companies' processes/products can pass it on to rivals, thus impacting competitive advantage.

Loss of Productivity: Working long hours (at two or more jobs) may cause the employee to become distracted, unproductive, and neglect primary job responsibilities because of **physical and mental fatigue**.

Misuse of Resources: Employees may use the company resources for their second job which increases operating expenses. This is unethical as well.

Conflict of interest: This is a big issue in the software and IT industries where employees use skills they have learned from their primary employer for the benefit of the rivals. So, Employers insist they have rights to their employees intellectual property.

Ethical Concerns: An employee, despite best efforts, may not be give their 100% when working for two companies simultaneously.

Moonlighting: At a Glance

STRENGTHS

Helps employees **earn more money**

Employees can **broaden their professional network**, which could also be beneficial to primary organisation

Provides opportunities to **upskill and keep up with industry trends**



CONCERNS

Low productivity

Impact on **physical and mental health of employee due to increased fatigue and stress**

Conflict of interest if working for a competitor or in the same industry

Ethical issues related to non-disclosure, breach of data or confidentiality



SOURCE Interviews, media reports, research papers

Source: ForbesIndia

What are the legal provisions regarding Moonlighting?

Certain statutory provisions **impose restrictions on double employment**. These include laws such as the **Factories Act, 1948**; some of the State **Shops and Establishments Acts** (like in Delhi and Bombay two or more jobs are restricted); and the **Industrial Employment (Standing Orders) Central Rules, 1946**. The Bombay Shops & Establishments Act prohibits employers from knowingly permitting an employee to extend services to another establishment on an off day.

Judicial View

In the case of **Glaxo Laboratories Limited vs Labour Court, Meerut and others (1983)** the Supreme Court held that the employer can't be granted the power to regulate the behaviour of the workmen outside the duty hours because then '*the contract of service may be reduced to contract of slavery*'. The sphere of employment cannot be extended by the employer beyond working hours and outside his place of employment, which is the principle laid down in the above judgment. In other words, the employee can choose to arrange her affairs as she pleases beyond the working hours of the employer.

In the case of **Gulbahar vs Presiding Officer Industrial Tribunal (2016)**, the Punjab-Haryana High Court **upheld the dismissal of the petitioner on the ground of dual employment**.

A Delhi District court upheld the dismissal of the employee under dual employment in the case of **Metso Paper (India) Pvt Ltd vs Mr V Gokulakrishnan (2019)**.

What has been the response of various companies regarding Moonlighting?

Wipro: The company terminated 300 employees after finding out that they were working for one of its competitors at the same time. The Executive Chairperson of Wipro called moonlighting as '**cheating**'.

Infosys: Infosys has warned employees against moonlighting. However, it has allowed employees to take up gig work outside the company hours **with prior approval** from HR and industry executives.

IBM India: The company has made clear that moonlighting, as a practice, is **not ethical** and the company does not promote such behaviour at the workplace.

Tech Mahindra: If moonlighting helps employees gain additional money, there should be no problem with supporting the practise of moonlighting.

Swiggy: It's employee-first 'Moonlighting Policy' allows its employees to pick up gigs or projects beyond work that add to their professional and mental well-being. However, this is subject to approvals.

Nova Benefits: It supports moonlighting and allows employees to try new options and pursue their interests or passion outside work hours.

The Minister of State for Skill Development and Entrepreneurship, and Electronics and IT, remarked that the **employers should not suppress employees** who want to monetise, develop and demonstrate, also **employees should not violate their agreements with employers**.

What should be the approach going ahead?

There is a need for greater deliberations on the issue from the perspective of all stakeholders.

Employers need to be sensitive about the requirements of the employees. Valid concerns related to confidentiality can be addressed through properly worded employment contracts. Periodic

review of emoluments can ensure employees are satisfied and do not look for alternate opportunities.

Employees should be mindful of their obligations towards their employers. They should engage in side-gigs only if it doesn't impact their productivity. The side hustle should ideally add to their skills or enhance productivity.

Source: [The Hindu](#), [Business Standard](#), [Business Standard](#), [Outlook](#)

Green Bonds: Benefits and Challenges – Explained, pointwise

Introduction

The Union Ministry of Finance has announced that it would issue Sovereign Green Bonds worth INR 16,000 crore as part of its October-March (H2FY23) borrowing programme. With this issue, India will join a club of 25 nations which have issued bonds to exclusively fund climate sustainability and green infrastructure projects and initiatives. Despite the rapid progress over the last decade, the size of Global as well as domestic (Indian) Green Bond markets has not yet reached the scale to ensure sustainable green finance. Addressing the gaps hampering the growth of green bond markets will help in scaling up investments in sustainable infrastructure and economic development.

What are Green Bonds?

Green bonds are debt instrument (like normal bonds) to **raise funds for climate and environmental projects**. Governments, Companies and multilateral organisations issue these bonds. Like other bonds, these bonds provide investors **fixed interest payments**. Generally, Governments provide tax incentives like tax credits to make them attractive for investors. The **World Bank** issued the first official green bond in 2009.

Green Bonds differ from other bonds in one key aspect. The proceeds from Green Bonds are exclusively **earmarked for green and environmentally sustainable projects** like sustainable agriculture, prevention of pollution, fishery and forestry, clean water and transportation, environment-friendly water management projects etc. For regular bonds, the issuer can use the proceeds for various purposes at her discretion.

For bonds to qualify as green bonds, **ICMA (International Capital Market Association)** has come up with **four components** that help to ensure transparency and disclosure in the development of such bonds: **(a)** The proceeds must be used for green projects; **(b)** The issuer (of bonds) must indicate the process adopted for project evaluation and selection; **(c)** The issuer must maintain transparency in the management of proceeds; **(d)** They must also **report the progress and impact** about the use of proceeds.

Thus this information also helps investors with sustainability to their investments. Moreover, helping the issuer to develop a framework.

The Climate Bond Initiative has provided a Green Bond Taxonomy to indicate the types of works covered under Green Projects.

CLIMATE BONDS TAXONOMY							
Energy	Low carbon buildings	Industry & Energy – intensive commercial	Waste & pollution control	Transport	Information technology & communications	Agriculture, forestry & land use	Adaptation
Solar	New residential	Manufacturing	Recycling facilities	Low carbon transport (land)	Power management	AFOLU mitigation	Water
Wind	New commercial	Energy efficiency processes	Recycles products & circular economy	Vehicles	Tele-conferencing	AFOLU adaptation	Energy
Bioenergy	Retrofit	Energy efficiency products	Waste to energy	Public transport	Resource efficiency	Agricultural products	Industry & waste
Geothermal	Products for building carbon efficiency	Retail & wholesale	Geo-sequestration	Bus rapid transport			Transport
Marine		Data centres		Alternative fuel infrastructure			ICT
Dedicated transmission		Process & fugitive emissions		Water-borne			Buildings
Energy distribution & management		Energy efficient appliance					Food supply
		Combined heat & power					Coastal

Source: Climate Bonds Initiative

Source: OECD

What is the current status of Green Bonds?

Global

The United Nations' Intergovernmental Panel on Climate Change estimates that limiting the temperature increase to 2°C, the goal of the Paris Agreement, will require about US\$ 3 trillion of investment every year to 2050. Global green initiatives such as the Paris Agreement on Climate Change and the UN Sustainable Development Goals have helped the expansion of Green Bonds markets.

As of mid-June 2022, 25 nations have issued **Sovereign Green Bonds worth US\$ 227 billion**, according to the research compiled by Climate Bonds Initiative. These include advanced economies like the United Kingdom, Spain, Ireland, Italy, Austria, Canada, and others, and emerging economies like Chile, Indonesia, Hungary, Poland, Fiji, Egypt etc.

Green bonds have been issued in 23 jurisdictions, including 14 markets of the G20, and in 23 currencies.



Green bonds issued for domestic and foreign investors: Australia; Austria; Canada; China; EU; France; Germany; Hong Kong, China; India; Italy; Japan; Mexico; Netherlands; Norway; Peru; South Africa; Spain; Sweden; the UK and the USA.



For foreign investors only: Brazil, Switzerland, and Chinese Taipei.



G20 markets: Australia, Brazil, Canada, China, EU, France, Germany, India, Italy, Japan, Mexico, South Africa, UK, USA.



Currencies: AUD, BRL, CAD, CHF, COP, EUR, GBP, HUF, IDR, INR, JPY, MXN, MYR, NOK, NZD, PEN, PLN, RMB, RUB, SEK, TRY, USD, ZAR

Australia – Dollar	Brazil – Real	Canada – Dollar	China – Yuan	Colombia – Peso	Eurozone – Euro	Hungary – Forint	India – Rupee
Indonesia – Rupiah	Japan – Yen	Malaysia – Ringgit	Mexico – Peso	New Zealand – Dollar	Norway – Krone	Peru – Nuevo Sol	Poland – Zloty
Russia – Dollar	South Africa – Rand	Sweden – Krona	Switzerland – Franc	Turkey – Lira	UK – Pound	USA – Dollar	

Source: OECD

The market for green bonds is increasing rapidly. According to the Climate Bonds Initiative, annual issuance may reach US\$ 1 trillion by 2023. The US is the largest source of green bonds, led by the government-backed mortgage giant Fannie Mae. Private Corporations from Apple to Pepsi and Verizon have followed suit. State and Local Governments have also turned to green bonds to pay for infrastructure projects.

India

The Union Ministry of Finance has announced that it would issue sovereign green bonds worth INR 16,000 crore as part of its October-March (H2FY23) borrowing programme. Budget 2022 had outlined the Union Government's plan to issue Sovereign Green Bonds for achieving net carbon neutrality target by 2070.

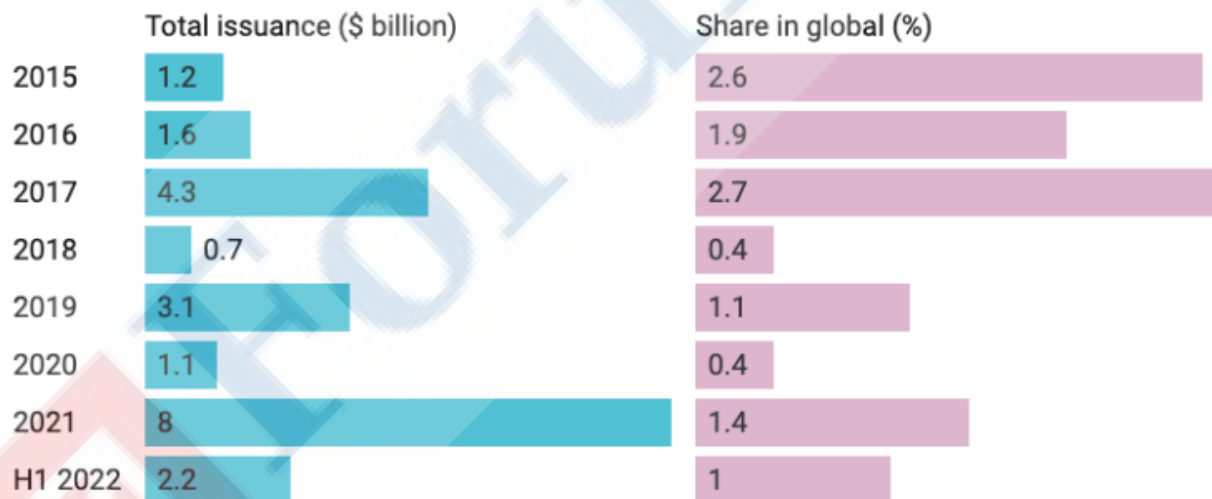
According to the Reserve Bank of India report titled **"Green Finance in India: Progress and Challenges"** until February 12, 2020, India had an outstanding debt of **US\$ 16.3 billion in green bonds**. Several Indian companies have issued such bonds. Most of them are listed on India INX, situated in Gandhinagar, Gujarat. The US\$ 650 million bonds issued by SBI in 2018 were listed on INX Gujarat, Luxembourg Stock Exchange and also Singapore Stock Exchange (SGX).

Some issuers of green bonds with the maturity of 10 or more years include (issue year): **(a)** Yes Bank (2015); **(b)** Indian Renewable Energy Development Agency (2017, 2019); **(c)** Rural Electrification Corporation Limited or REC (2017); **(d)** Power Finance Corporation (2017); **(e)** Indian Railway Finance Corporation Ltd.(2017); **(f)** Adani Renewable Energy (2019) etc.

Around 76% of the such bonds issued in India since 2015 were denominated in US\$. India's first green bond was issued by Yes Bank in 2015 to raise INR 5 billion to enhance long-term resources for funding infrastructure projects in renewable and clean energy.

Green bond issuances in India reached an all-time high in 2021

Green bond issuances in India



Source: Mint

The Green Bond issuance in India in 2021 exceeded US\$ 6.5 billion. Yet they contributed only 0.7% to India's Bond Market and 1.4% to the global green bond market.

What are the benefits of Green Bonds?

Issuers

The benefits to issuers include: **(a)** Improve investor diversification; **(b)** Enhance reputation of the issuer; **(c)** Provide an additional source of sustainable financing; **(d)** Increase alignment

regarding the durability of instruments and the project lifecycle; **(e)** Attract strong investor demand, which can lead to high oversubscription and **pricing benefits** (as has been observed in relation to certain issuances).

These bonds have lower interest rates than the loans provided by commercial banks.

Investors

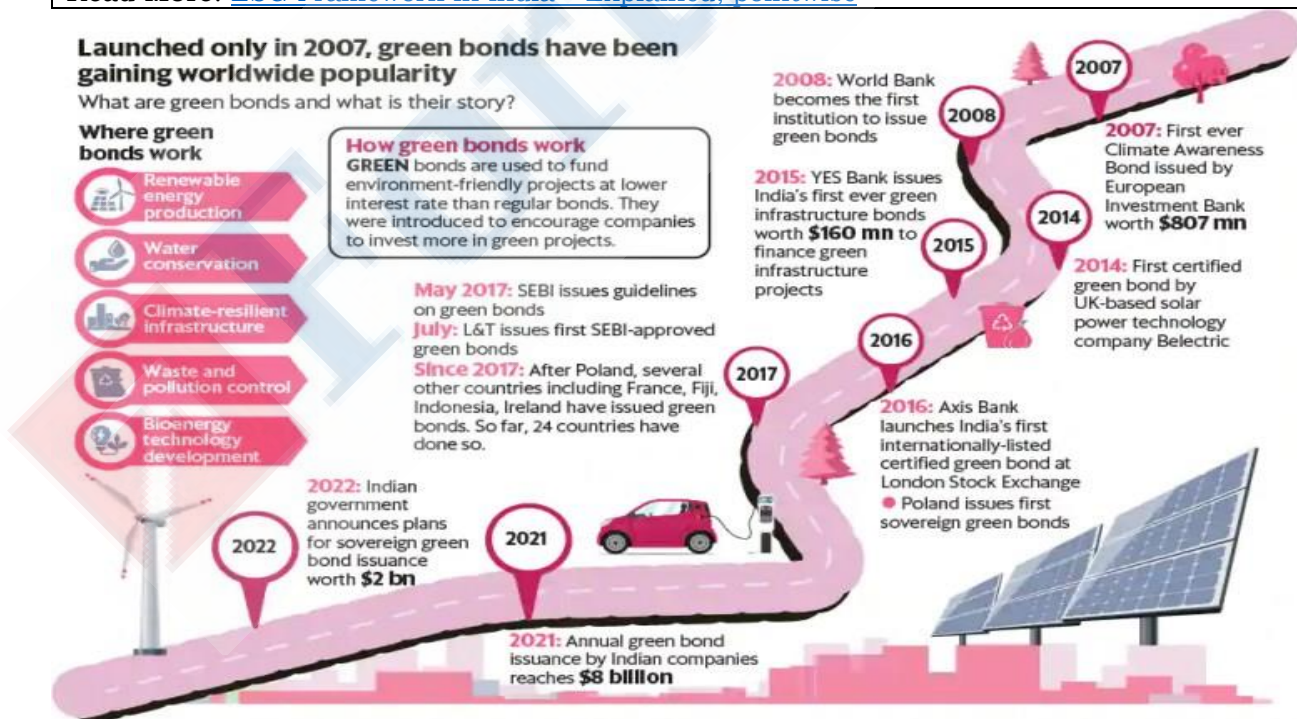
The benefits to investors include: **(a)** Comparable financial returns (in comparison to normal bonds) with the addition of **environmental and/or social benefits**; **(b)** Satisfy **ESG requirements** for sustainable investment mandates; **(c)** Enable direct investment in the **'greening' of brown sectors** and social impact activities; **(d)** Increased **transparency and accountability** on the use and management of proceeds, becoming an additional risk management tool; **(e)** Green bonds can help **mitigate climate change-related risks** in the portfolio due to changing policies such as carbon taxation which could lead to **stranded assets**. Instead, a green bond invests in climate-friendly assets, such as green buildings, renewable energy, that over time **bear a lower credit risk**.

Other Benefits

In addition, Green Bonds have other benefits like: **(a)** Future improvements to the environment are ultimately made possible by these bonds' contribution to green project funding; **(b)** The renewable energy industry is one of the priority sectors identified by RBI. Therefore, banks are required to allocate a particular portion of their loan book to the priority sector. This will help the credit flow in this sector; **(c)** Contribute to national climate adaptation, food security, public health, energy supply, amongst others;

Green bonds forms part of **ESG (Environmental Social Governance)** investing and since 2012, the Securities and Exchange Board of India (Sebi) has mandated the top 100 listed companies to disclose their business sustainability report to stock exchanges.

Read More: [ESG Framework In India – Explained, pointwise](#)



Source: Mint

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What are the challenges associated with Green Bonds?

Greenwashing: Greenwashing refers to the practice of making **false or misleading claims** about the green credentials of a company or a project. Greenwashing remains a major challenge for the market in green bonds and other sustainable investments. This is because the funds generated through the bonds may be diverted to another product. Moreover, it is difficult to quantify the benefits of green projects. Similar concerns are faced in the functioning of the carbon markets as well.

Read More: [Carbon Markets: Benefits and Challenges – Explained, pointwise](#)

Legal Definition: With no single global standard or recognised legal definition, and the market criteria based on voluntary compliance, it is difficult to conclusively say if some bonds are green or not. It is also difficult to assess their **level of 'greenness'**. Hence there is growing scepticism around the effectiveness of such bonds.

Lower Yield: Green bonds may be issued with a higher price, and thus have a **lower yield compared to other bond instruments**. This has been termed as "**greenium**". Moreover, the coupon rates of a green bond are not easy to determine as there are constant debates on whether to price them higher or lower than regular bonds with equal arguments on both sides.

Credit Rating of Sovereign Bonds: If a government wants to go global to raise funds, it needs to improve its credit rating as all bonds issued globally are closely linked to the credit rating of the issuing country. This could mean close scrutiny of the domestic policies, which the government should be transparent and open to. Countries with poor credit ratings may find it difficult to raise funds.

What should be the approach going ahead?

Multiple Stakeholders: Creating green infrastructure would require investment and involvement of multiple stakeholders. Globally the green bond market should have **adequate support from both the public and private sectors** of all nations and from the **multilateral institutions** like World Bank for **capacity building and expertise in green projects**.

Market Development: For a strong green bond market to connect to the main capital markets and investors, it would also need **common standards and rules**. This will make it easier to put the money into sustainable development. According to the RBI, To strengthen the green bond market, it is necessary to: **(a)** Increased coordination between investment and environmental policies; **(b)** An implementable policy framework for both National and State levels in addressing the existing frictions; **(c)** Some of the policy measures such as **deepening of corporate bond market, standardisation of green investment terminology, consistent corporate reporting, and removing information asymmetry** between investors and recipients can make a significant contribution in addressing some of the shortcomings of the green finance market (RBI, 2019).



Source: [Economic Times](#)

Tax Incentivisation: There is need to provide clear tax incentives for green bond issuers and investors in order to improve fund flow to the green projects.

Recognition: Investor recognition and the reward of good green corporate citizens would strengthen green bonds as a dynamic capital markets product supporting genuine economic and societal needs.

RBI Recommendations: According to the Reserve Bank of India Annual Report (2015-16): **(a)** There is need for development of local green bond markets, facilitating cross-border investments in green bonds, knowledge sharing on environmental risks, and improving overall green finance activities; **(b)** There is also a need to address issues related to **assessment of environmental risk by financial institutions**, the **definition and scope of “green activities”**, and the **protection of intellectual property rights** during the creation and transfer of technology from developed countries.

Penalty: The monitoring of green projects needs to be stringent to ensure **better completion rates**. Recipients of such funds should be compliant, and a penalty component could be imposed in case of missing a deadline. This will check the tendency of greenwashing.

Information Management System: Developing a better information management system may help in efficient resource allocation. To overcome information gap, several countries including Australia, China, India and the United States have database related to green building projects in the country.

Conclusion

The Green Bond Market has grown rapidly during the last decade. However, it has not yet reached the scale necessary to address the challenges posed by the imminent climate change and the need for enhanced green finance. Addressing the concerns like greenwashing and

making them more lucrative for investors, can attract private investments in green projects. Private Capital can supplement the green funding from developed economies, which has not been forthcoming despite the pledges in climate negotiations.

Syllabus: GS III, Indian Economy; Conservation, environment pollution and degradation.

Source: [Mint](#), [Business Standard](#), [Business Standard](#), [RBI](#), [OECD](#), [WEF](#), [WEF](#)

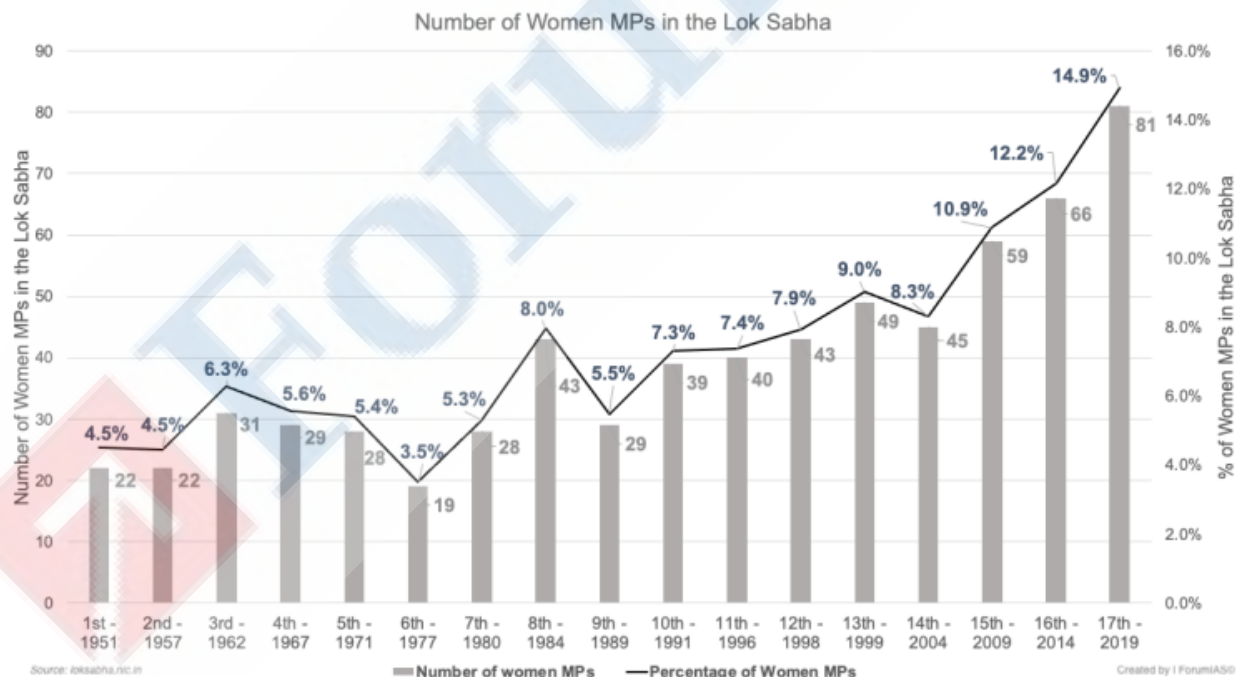
Women's Representation in Legislature – Explained, pointwise

Introduction

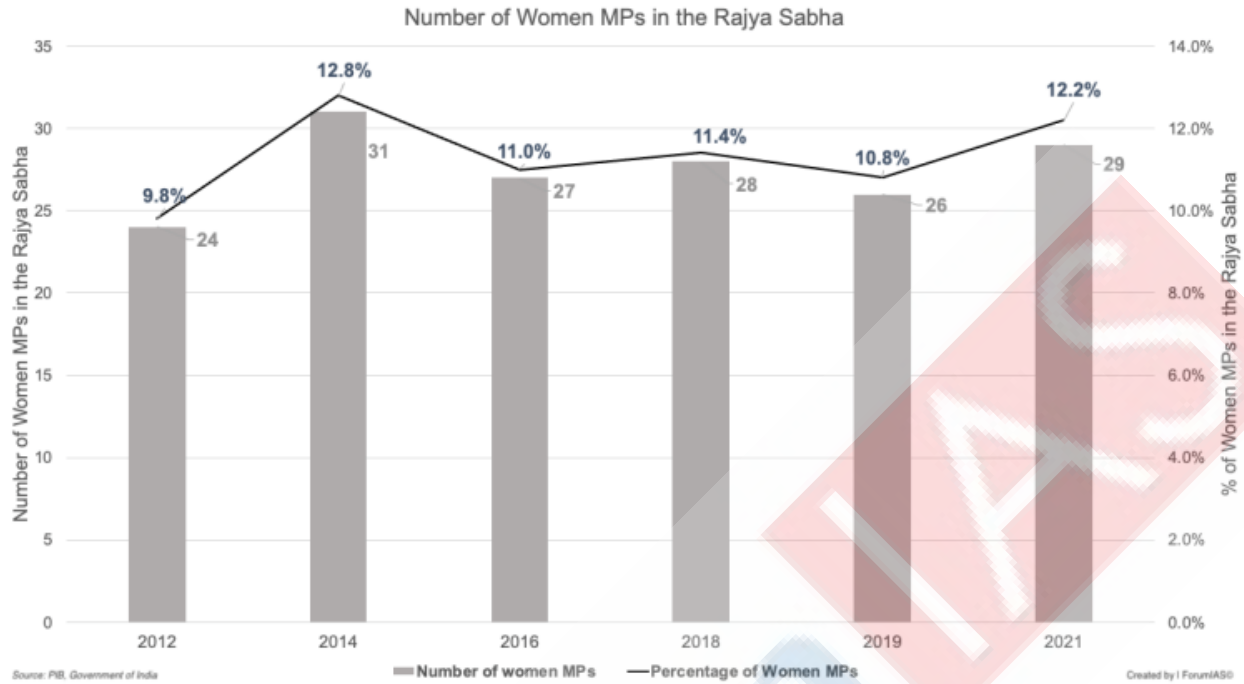
A PIL has been filed in the Supreme Court seeking reintroduction of the lapsed Women's Reservation Bill for 33% quota in the Lok Sabha and the State Legislative Assemblies. The Supreme Court has sought the response of the Union Government to the PIL in 6 weeks. Enhancing women's representation in the Legislature through reservation has been a debatable and contentious issue. Despite persistent efforts for long, there has been lack of consensus on the issue. There has been an upward trend in women's representation in Legislature in India in recent times, yet it is much below the desired levels. In fact, many African countries fare better than India. There is a need for renewed push towards efforts in this regard as studies have shown that women's representation has a major impact on inclusive and gender development issues.

What is the current status of Women's Representation in Legislature?

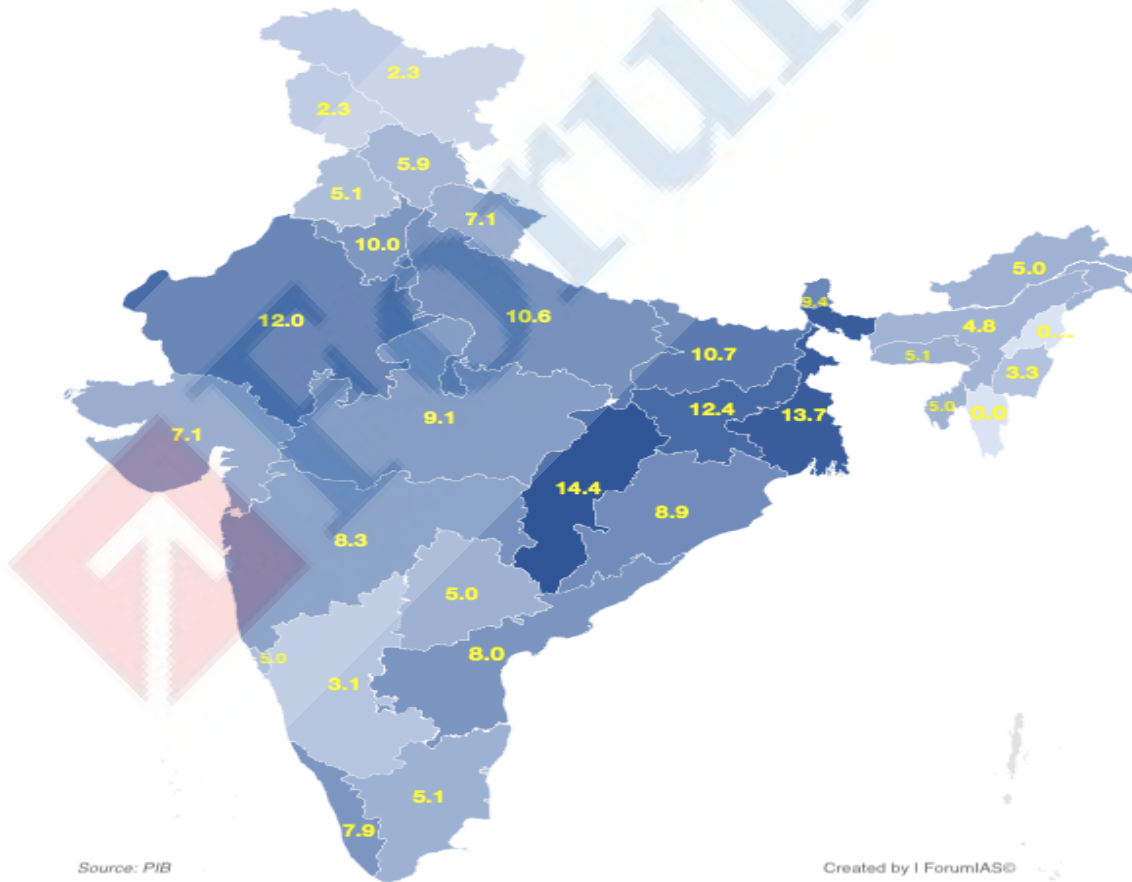
The number of women members in the Lok Sabha has shown a regular increasing trend in the recent times. The number of Women MP's in Lok Sabha has increased from 45 (8.3%) in 2004 (14th Lok Sabha) to 81 (14.9%) in 2019 (17th Lok Sabha).



The women membership in the Rajya Sabha hasn't shown the similar rising trend.



The representation of women in State Legislative Assemblies has been low. The highest is in Chhattisgarh (14.4%) followed by West Bengal (13.7%) and Jharkhand (12.4%).



Source: PIB. Percentage of Women Representatives in State Legislative Assemblies as on December 31, 2021. The proportion for Jammu and Kashmir/Ladakh is based on last elections held in 2014.

Even though the percentage of female lawmakers in the Lok Sabha reached a record high of ~15% in the 17th Lok Sabha, India ranks lower than 140 other nations in terms of the number of women serving in their national legislatures. According to the Inter-Parliamentary Union (IPU) 'Women in Parliament' Report (2021), the global percentage of women in parliament was 26.1%.

According to the IPU's [latest status report](#) (as of October 2022), Rwanda (61.3%), Cuba (53.4%), Nicaragua (51.7%), Mexico (50%), UAE (50%) are the top performers in terms of women's representation in legislatures. In India's neighbourhood, Nepal (33.6%), Bangladesh (20.9%), Pakistan (20.5%), Bhutan (17.4%) perform better than India.

What are the reasons for low Representation of Women in Legislature?

Gender Gaps in Political Ambition: Several factors associated with **gender conditioning** may lead to lack of political ambition in women: **(a)** Women are less encouraged to run for office/election than men; **(b)** Women are less likely to believe that they are more qualified for office than men; **(c)** Women's tendency to shy away from competition may also play a role since the political selection process is likely perceived as highly competitive; **(d)** The fear of 'big politics' and factors such as self-doubt, stereotypes and personal reservations often prevent even the most politically gifted women from entering government; **(e)** Women's willingness to advance in their political careers can also be influenced by family and relational considerations. In Sweden female politicians who are promoted to mayor (i.e. the highest office in municipal politics) experience a significant increase in the likelihood of divorcing their partner, whereas this is not the case for men.

Patriarchal Society: **(a) Gender Disparities:** There are still many obstacles in the way of women in positions of leadership due to gender inequality in areas like as education, access to resources, and the persistence of biased views; **(b) Sexual division of labour:** Women are responsible for the majority of housework and child care; **(c) Cultural and Social Expectations:** Cultural and Social Expectations are forced upon women which prevent women from participating in politics; **(d) Illiteracy:** It's a major barrier to women's advancement in the political sphere. On average, female applicants had lower levels of education and work experience than their male counterparts.

Cost of Contesting Election: Cost of contesting elections is rising with times. Lack of access to resources and assets means that women are much less likely to be able to raise the funds for contesting elections than men.

Gate-keepers: Party leaders, who often are key players in the selection of candidates, may prefer to promote male rather than female candidates. There may be bias in the thinking regarding **winnability of female candidates** preventing them from selecting women leaders for election.

In addition to the aforementioned factors, the exodus of women from politics is also attributable to a **lack of political education**, a considerable **growth in criminalization** and **corruption**.

What are the benefits of high Representation of Women in Legislature?

Focus on Gender issues: According to UN Women, higher numbers of women in parliament generally contribute to stronger attention to women's issues. This can ensure appropriate policy response to address gender issues and introduce women-sensitive measures.

Gender Equality: Women's political participation is a fundamental prerequisite for gender equality and genuine democracy. It can help **establish public enquiries on women's issues** and use findings to place issues on government agendas and within legislative programmes.

Accountability: It facilitates women's direct engagement in public decision-making and is a means of ensuring better accountability to women.

Gender-sensitive Governance: It helps in undertaking reforms that can help make all elected officials more effective at promoting gender equality in public policy and ensuring their implementation.

Encourage Inclusive Initiatives: Improved Women's representation in Legislature can encourage the provision of **financial incentives** to programmes/projects designed to **facilitate women's decision-making endeavours** (e.g. for leadership-training schools, increasing government subsidies to political parties with more women in leadership positions/candidates; introducing a specific women's budget earmarked for enhancing women's decision making).

Change Stereotypes: Enhanced representation can help cooperate with the women's movement and the media to **change the stereotyped image of women** as only 'homemakers', and to portray them as effective and efficient politicians and to normalise the image of a woman politician.

What steps have been taken to improve Women's Representation in Legislature?

Constitutional: (a) **Article 14** has established equality as a fundamental right. It inevitably necessitates equal opportunity, as stated in **Article 15**; (b) **Article 46** puts on the state the responsibility to safeguard vulnerable groups against social injustice and all forms of exploitation; (c) **Article 243D** of the Constitution ensures participation of women in Panchayati Raj Institutions by mandating at least 33% reservation for women in total seats and the offices of chairpersons of Panchayats; (d) **Article 326**: Elections to the House of the People and to the Legislative Assemblies of States to be on the basis of adult suffrage.

Legislative: (a) **Parliamentary Committee on Empowerment of Women:** In 1997 (11th Lok Sabha), the Committee on Empowerment of Women was formed to advance the position of women; (b) **Gender-Neutrality:** Under the leadership of Meira Kumar, who was the Speaker of the Lok Sabha at the time, the **rules of the Lok Sabha were made completely gender-neutral in 2014**. Since then, every document has called the head of a Lok Sabha Committee the Chairperson; (c) The Women's Reservation Bill (2008)(108th amendment) was tabled to reserve 33% of Lok Sabha seats for women. However, there has been lack of consensus among political parties regarding grant of reservation to women.

International Covenants: Globally, several international commitments have been made, for achieving gender equality and these have emphasized on enhancing women's representation in political sphere. While the **Convention on the Elimination of All Forms of Discrimination against Women** (1979) upheld women's right to participate in public life, the **Beijing Platform for Action** (1995) called for removing barriers to equal participation. The **Millennium Development Goals** (2000) and the **Sustainable Development Goals** (2015-2030) also took into account women's representation in parliament to measure progress towards gender equality.

Article 25 of the **International Covenant on Civil and Political Rights**, (binding on signatory states including India), says that "Every citizen shall have the right and the opportunity, without unreasonable restrictions to vote and to be elected at genuine periodic elections".

Political Participation of Women: International Conventions

- **Basic Human Right:** The Universal Declaration of Human Rights (1948) and the International Covenant on Civil and Political Rights (1966) declare **Political Participation as a basic human right**.
- **Eliminate Discrimination:** Convention on the Elimination of All Forms of Discrimination Against Women (CEDAW) adopted by the United Nations (UN) General Assembly in 1979.
 - Article 7 calls for the State parties to **take appropriate steps to eliminate discrimination against women** in the political sphere.
 - Women must have equal right to vote and be eligible to hold public office, participate in policy formulation and implementation.
- **Women Participation:** The 4th World Conference on Women (Beijing, 1995) considered 'Women in power and decision making' as one of the 12 critical areas in its **Platform of Action**.
- **30% Representation at Decision Making Level:** The UN Economic and Social Council (ECOSOC) endorsed a **30% target of women participation** at decision-making levels (1995).

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What should be done going ahead?

According to a study by the IPU, several corrective steps can be undertaken to enhance women's representation in the Legislatures.

Setting Quotas for Female Representation: According to the IPU's 2021 Women in Parliament report, among the 30 countries that had quotas in place for their single/lower house in 2021, 31.9% of MPs elected were women, compared to 19.5% in countries with no quotas. However, quotas alone may not increase women's representation. **Clear, well-structured and well-drafted regulations** with **effective enforcement mechanisms** must be put in place.

Reservation of seats for women faces opposition as it restricts choice of voters. Therefore, some experts have suggested alternate methods such as **allocating minimum 33% tickets to women candidates in election and dual member constituencies**.

End Violence against Women in Politics: According to an IPU report (2016), nearly 82% of 55 women parliamentarians surveyed from 39 countries reported **first-hand experience of psychological gender-based violence during their political careers**, while 44% of the women surveyed stated that they had been physically threatened during their time in office. **Online and offline hate speech**, sexist comments, sexual harassment and physical assault are also widespread, and are regularly used as tactics to dominate and silence women in politics. These need to be tackled by establishing cross-party, mixed-gender working groups in parliaments across the globe to **eliminate gender-based violence**; develop standards and policies to combat sexism and harassment; and establish an **independent, confidential and fair complaints system** that those working in Legislatures can trust.

Mentoring: A 2021 UNDP study found that tutorship programmes, including those developed by political parties, help to connect women with more experienced female politicians and **gain the necessary experience** by learning from their insight. Newcomer Women parliamentarians can also benefit from mentorship, by helping them become leaders and progress in their careers.

Increase Women's Participation in Media: A 2020 Journal of Communication study found that women are still **stereotypically disassociated from public life and politics**, . Media coverage

tends to focus more on a woman parliamentarian's personal background, clothing, marital status and children etc. Educating journalists, calling attention to bias and creating projects that monitor press treatment of women politicians, parliamentarians and presidential candidates – and document sexist coverage – are all effective ways to increase women's representation in the media.

Expand participation through Women's Caucuses: Women's parliamentary caucuses allow Women Parliamentarians to work collaboratively across party lines to foster **gender equality legislation and policy agendas**. They can help amplify women's voices and influence in parliament. It is imperative that additional efforts, organizational support and leadership are provided for caucuses to succeed.

Conclusion

Improving women's representation in legislatures can have a large positive impact in ensuring gender inclusive development. It is time that political parties should overcome their differences and take initiatives to improve political participation of women. Some political parties have started fielding more women candidates. However, there is a need to institutionalize such mechanisms to make them more effective. This will ensure women empowerment in true sense.

Syllabus: GS I, Social Empowerment; GS II, Parliament and State Legislatures Functioning and Issues arising out of these; GS II, Government policies and interventions for development in various sectors and issues arising out of their design and implementation.

Source: [The Times of India](#), [The Times of India](#), [PIB](#), [IPU](#)

The Issue of Child Marriage in India – Explained, pointwise

Introduction

The Members of the Steering Committee of the Global Programme to End Child Marriage recently visited India. They praised India's efforts and success in bringing down child marriages. The Global Programme to End Child Marriage is a joint initiative of United Nations Population Fund (UNFPA) and the United Nations International Children's Emergency Fund (UNICEF) and it promotes the rights of adolescents to delay marriage.

What is the current status of Child Marriage in India and the World?

Child marriage is defined as a marriage of a girl or boy before the age of 18. It includes both formal marriages and informal unions in which children under the age of 18 live with a partner as if married.

Global

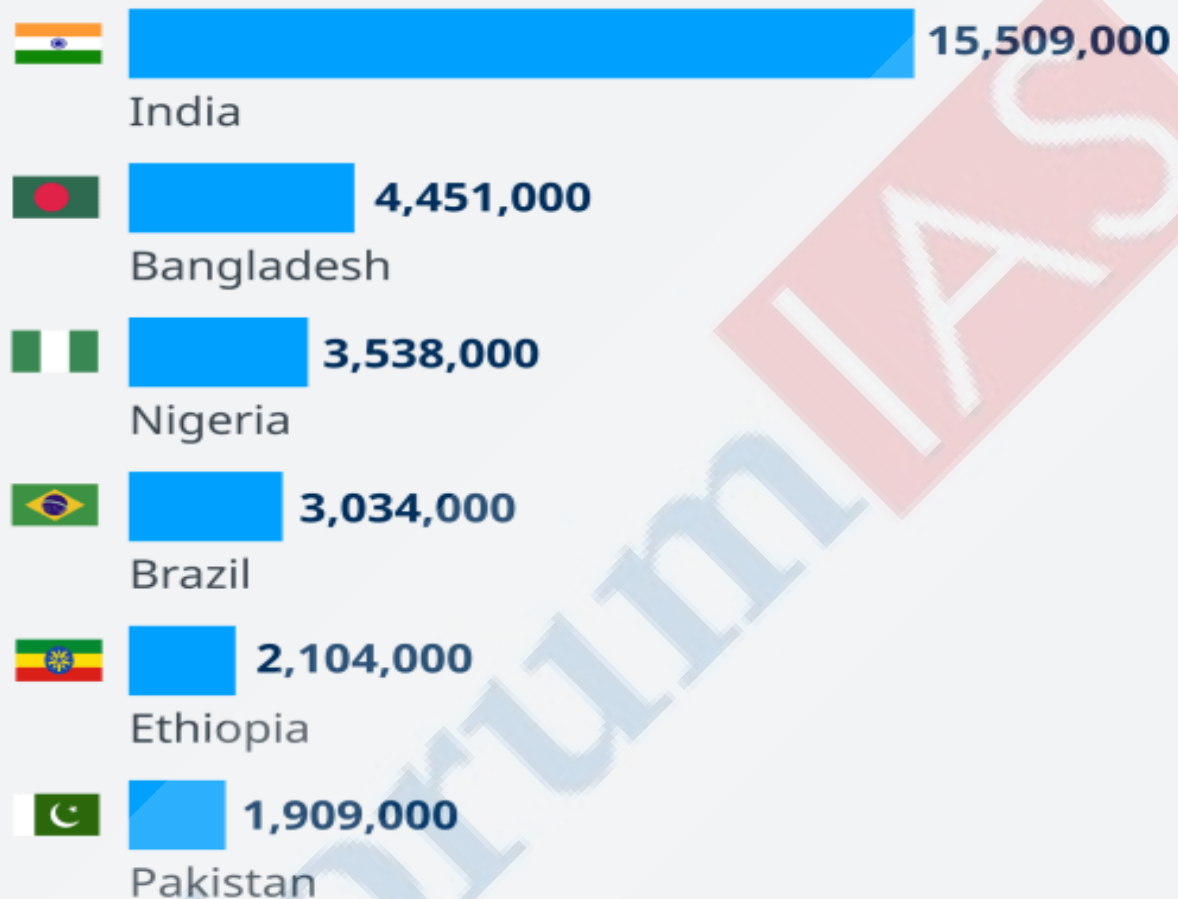
About 40 million girls ages 15-19 are currently married or in a union worldwide.

Each year, some 12 million more girls are married before reaching the age of 18 years. Of these, 4 million are under the age of 15 years. By 2030, it's estimated that 150 million girls will lose their childhoods due to child marriage.

The **Global Girlhood Report** by Save the Children estimates that an additional 5 million girls are at risk of child marriage globally between 2020 and 2025, as a result of reported increases in all types of gender-based violence due to the COVID-19 pandemic.

According to Save the Children, about 15 million girls and boys will never return to school following pandemic lockdowns and school closures. **Children who don't come back to school are at greater risk of early marriage**, child labor and recruitment into armed forces.

Countries with the highest number of child marriages*



Source: Population data from United Nations |
*Women who were first married or in a union
before they were 18-years-old

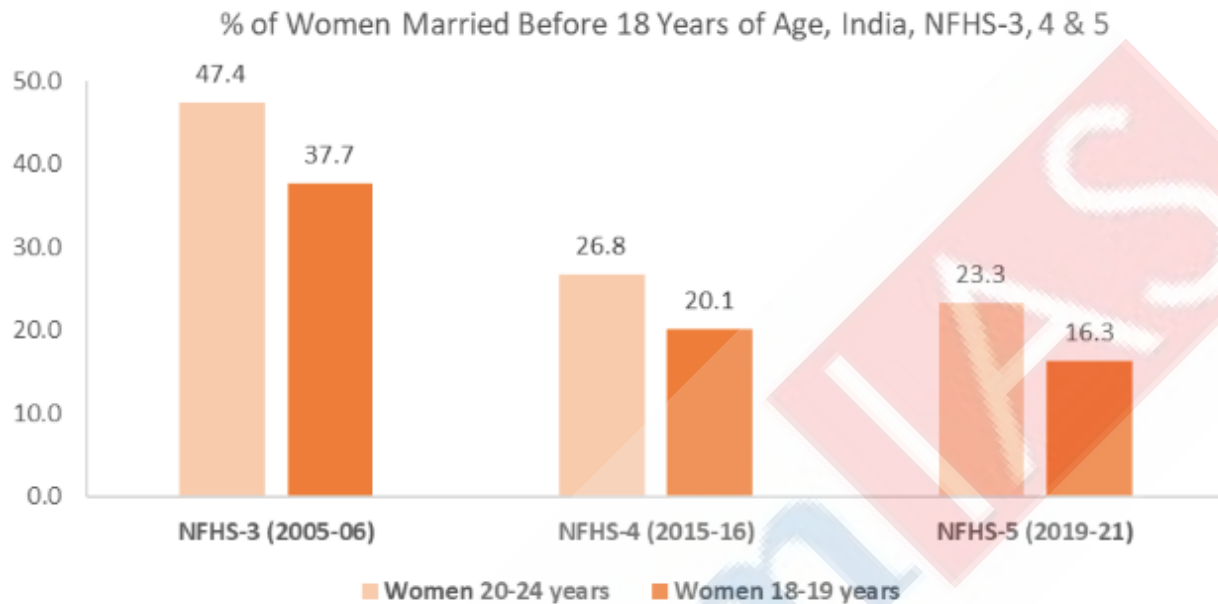
Source: UNICEF

India

Child marriage reduced from 47.4% in 2005-06 to 26.8% in 2015-16, registering a decline of 21 percentage points during the decade. In the last 5 years, it has declined by 3.5 percentage points to reach 23.3% in 2020-21, according to the latest National Family Health Survey-5 data.

8 States have a higher prevalence of child marriage than the national average — West Bengal, Bihar and Tripura top the list with more than 40% of women aged 20-24 years married below 18, according to NFHS data.

According to UNICEF, at least 5 million girls under 18 get married in India, which makes it home to the largest number of child brides in the world – accounting for ~33% of the global total. Nearly 16% adolescent girls aged 15-19 are currently married.



Source: NFHS-5, UNFPA

What are the harmful impacts of Child Marriage?

Child Rights Issues: The **Convention on the Rights of the Child** is meant to protect individual rights of the children which are taken away by getting married too young. Children who are forced to get married young lose their rights including the **right to an education**, the **right to be safe from physical and mental violence**, injury, or abuse, including sexual abuse, rape, and sexual exploitation, and the **right to the best possible health** among others.

Health Issues: (a) Children born to adolescent mothers have a **greater possibility of seeing stunted growth** as they have low weight at birth. According to NFHS-5, prevalence of child stunting is 35.5% in 2019-21; (b) **Premature Pregnancy:** Most young brides don't know much about contraception and don't have easy access to reproductive health services. They get pregnant at a younger age and have more than one child before their mind and bodies are ready; (c) **Maternal Mortality:** Girls under 15 are **five times more likely to die during childbirth or pregnancy**. The leading cause of death for girls ages 15 to 19 around the world is **pregnancy-related deaths**; (d) **Infant Mortality:** Babies born to mothers younger than 20 have almost **75% higher death rates** than babies born to mothers older than 20 years. The children who do make it are **more likely to be born pre-mature and with a low birth weight**; (e) **Mental health:** Abuse and violence can lead to PTSD (Post-Traumatic Stress Disorder) and depression; (f) **HIV/AIDS:** Young girls are more likely to get sexually transmitted infections (STIs) because of working of their bodies. They have less access to reproductive education and health services, and they often can't force partners to use contraceptives.

Illiteracy: Child brides are often taken out of school and not allowed to get further education. Their children are also more likely to be illiterate. Research shows that child marriage and pregnancy are the biggest factors that keep girls from going to school.

Intergenerational Cycle of Poverty: Child marriage negatively affects the economy and can lead to an intergenerational cycle of poverty. Girls and boys married as children more likely **lack the skills, knowledge and job prospects needed to lift their families out of poverty**. Early marriage leads girls to have children earlier and **more children over their lifetime**, increasing economic burden on the household.

Teen Widows: In a society that allows child marriages, it is not unusual to find widows and divorcees under the age of 18.

What are the reasons for prevalence of Child Marriage?

Child marriage has **strong roots in culture, economics and religion**. It's a chain of events that leads to children being locked up in marriages.

Poverty: Poor Families 'sell' their children through marriage to pay off debts or to get out of the cycle of poverty. Child marriage makes families poorer because young girls who get married won't be educated or skilled enough to do well in the workforce.

"Protecting" the Girl's Sexuality: In some cultures, marrying a girl young is thought to "protect" the girl's sexuality and the family's honour.

Customs and Traditions: In places where child marriage is common, families are put under a lot of social pressure to get their daughters married or face ridicule, disapproval, and family shame. Traditions like dowry put a lot of stress on the family because the parents have to give a lot of money, jewellery, land etc. for their daughter to get married. Generally the amount of dowry rises with age of the girl (beyond a certain limit). So families prefer to marry their girls young.

Security: Parents often marry their daughters off young to "secure" a good future for them. Abuse, rape, and other crimes against girls, as well as extreme poverty, can make parents turn to child marriage as a way to protect their daughters.

Discrimination based on gender: Child marriage is a manifestation of discrimination against girls and women. According to a UNICEF report on 'Child Marriage and the Law', "The discrimination often manifests itself in the form of domestic violence, marital rape, and deprivation of food, lack of access to information, education, healthcare, and general impediments to mobility".

Laxity in Implementation of Laws: Laws are not implemented stringently. In many cases the ages of the bride and groom aren't checked at the time of registration of marriage. Many child marriages aren't even registered.

Major Reasons for early marriage of Women



What steps have been taken to check Child Marriage?

Historical Efforts

In 19th Century, the social reformers like Raja Rammohan Roy, Iswarchandra Vidyasagar, Pandita Ramabai worked for uprooting this evil practice.

Colonial government introduced some legal measures against child marriage. Marriageable age of girls was raised to 10 years by the law passed in 1860.

Further **Age of Consent Act, 1891** increased this age to 12 years.

The **Sharda Act** passed in 1929 raised the age of marriage to 14 years for girls and 18 years for boys.

Legislative Steps

The **Hindu Marriage Act**, 1955 prescribes age for marriage as 18 for girls and 21 for boys.

Prohibition of Child Marriage Act (PCMA), 2006: This law replaced the Child Marriage Restraints Act, 1929. It criminalizes the acts of the person who performs, conducts, directs or abets any child marriage and provides for punishment with an imprisonment up to 2 years and fine up to INR 1 lakh.

Other laws that provide protection to a child bride include the **Juvenile Justice (Care and Protection of Children) Act, 2015**; the **Domestic Violence Act, 2005**; and the **Protection of Children from Sexual Offences Act, 2012**.

A **Parliamentary Standing Committee** is weighing the pros and cons of **raising the age of marriage for women to 21**, which has been cleared by the Union Cabinet.

Government Policy/Schemes

Union Government: (a) Under the **National Population Policy 2000** and the **National Youth Policy 2003**, there are strategies to address the vulnerability of girls in the context of child

marriages. Some of these ideas included the provision of non-formal education and vocational training, development of livelihood skills and education and awareness of sexual and reproductive health issues; **(b)** The Government has launched schemes like the ***Beti Bachao Beti Padhao, Sukanya Samridhi Yojana*** etc.

State Governments: **(a)** In Rajasthan, the **Health Institute for Mother and Child** started the **Action Approach for the Reduction of Early Marriage and Early Pregnancy**, as an initiative to involve young people towards the creation of awareness on reproductive health information. This was done through the process of community mobilization and key stakeholders; **(b)** West Bengal's **Kanyashree Scheme** offers financial aid to girls wanting to pursue higher studies. Another Scheme **Rupashree**, provides a one-time payment of INR 25,000 to poor families at the time of a daughter's marriage. The girl must be above the age of 18 to be eligible for this scheme; **(c)** States like UP and Bihar among other States have launched schemes to encourage girls to go to school and delay child marriage.

NGO and International Organisation's Initiatives: **(a)** The Global Programme to End Child Marriage (second phase: 2020-2023, a UNFPA-UNICEF Initiative) promotes the rights of adolescents to delay marriage; **(b)** Child marriage is included in **Sustainable Development Goal 5 'Achieve gender equality and empower all women and girls'** under Target 5.3 '**Eliminate all harmful practices, such as child, early and forced marriage and female genital mutilation**'; **(c) The Knowledge Hub on Child Marriage, India:** The Knowledge Hub (K.Hub) is a web-portal exclusively focused on the issue of child marriage, designed to cater to growing need for evidence-based approaches on prevention of child marriages in India and neighbouring countries.

What should be the approach going ahead?

Empowering the Girl Child: The Governments should take all possible steps to improve access to education for girls e.g., the Governments can provide schools with proper sanitation facilities. Incentives may also be provided for girls to increase their enrollment in the school.

Proper Implementation of Laws: Village Panchayats must work closely with the Child Protection Committees and Child Marriage Prohibition Officers to prevent instances of child marriages.

Social Change: There is a need to sensitize the parents and society about the ills of child marriage. Rallying the wider community to stand up for girls' rights will help bring the change. Social change will be more effective to check child marriage than coercive measures and laws.

Financial Upliftment: Providing families with livelihood opportunities like microfinance loans is an effective way to prevent child marriages that occur as a result of financial stress.

Conclusion

Child marriage spells an end to childhood, deprives children of their rights and leads to negative consequences for society. The efforts of the Union and State Governments, NGOs have led to a sharp decline in the instances of child marriages. However, all stakeholders should continue their efforts till this evil practice is eliminated completely.

Syllabus: GS I, Social Empowerment; GS II, Government policies and interventions for development in various sectors and issues arising out of their design and implementation; GS II, Welfare schemes for vulnerable sections of the population by the Centre and States and the performance of these schemes.

Source: [The Hindu](#), [Indian Express](#), [UNICEF](#), [UNFPA](#)

[Yojana November Summary] Paradigm of Coastal Security – Explained, pointwise**Introduction**

More than 600 million people, (~10% of the world's population), live in coastal areas that are 10 meters above the sea level. Nearly 2.4 billion people (~40 % of the world's population) live within 100 km of the coast. In India, three out of four metro cities are located on the coast. About 14.2% of the population in India lives in coastal districts. Around 95% of India's trade by volume and 68% by value is conducted through these waters, with priority being accorded to port-led development plans in recent years. The offshore development areas are critical for securing India's energy needs. India has one of the largest fishing fleets globally. Thus, **oceans are the lifeline of prosperity and economic development**. India has a long coastline of 7516 km along the mainland and island territories. India occupies a significant position in the maritime economics of the world trade overseeing the busiest of the international shipping lanes. There are 9 Coastal States, 4 Union Territories and 1295 islands spread along the coast of India, including the Andaman & Nicobar Islands in the east and Lakshadweep Islands in the west. The coastal areas host major commercial cities, and significant strategic and vital installations of Defence, Atomic Energy, Petroleum, and private ventures. In addition there 12 major ports and more than 239 non-major ports along the coastline, thus increasing the coastline's vulnerability. In this context, ensuring coastal security becomes strategically important.

Coastal Security Challenges

Inimical neighbourhood sponsored **cross-border terrorism** makes India's coastline vulnerable. This was evident during **26/11 terrorist attacks** when Pakistan-sponsored terrorists entered India through sea-route and wrecked havoc in Mumbai. The explosives used to undertake **terror attacks in Mumbai in 1993** were also **smuggled through Arabian Sea**.

Coastal Infrastructure including ports handling large volume of goods, including oil storage tanks are more **vulnerable to attacks by terrorists**.

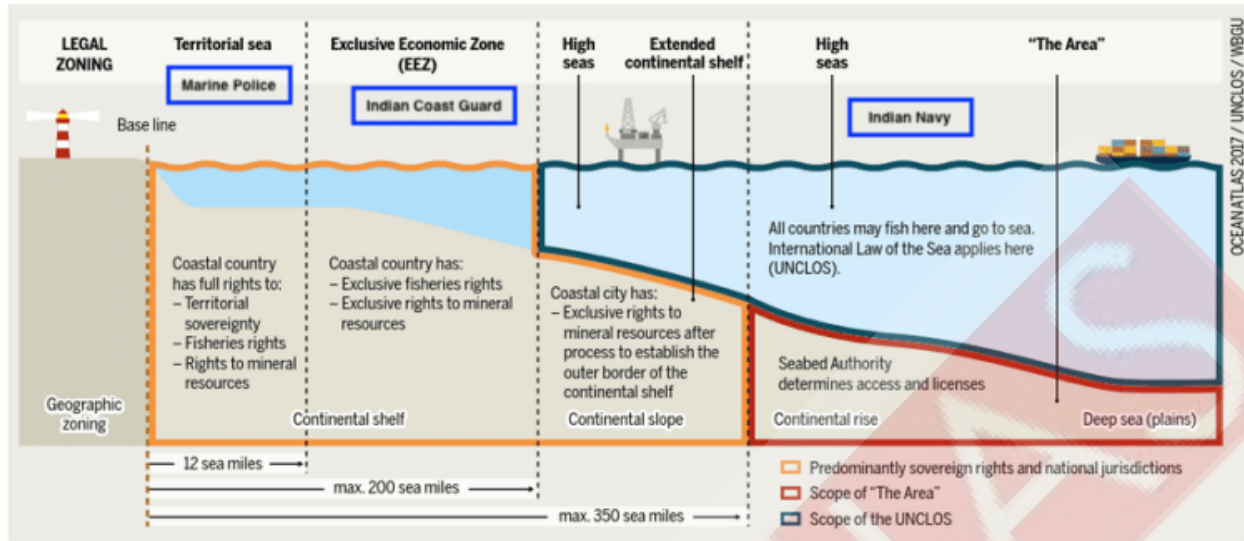
In addition, coastal regions are becoming preferred route for **arms and drug trafficking**. Ensuring **security of major shipping lanes** is another major challenge.

The instances of **piracy and robbery** have been increasing especially in the Arabian Sea region proximal to Eastern Africa (like Somalia). Maritime ships including Indian ships engaged in trade are vulnerable to pirate attacks.

Instability in India's neighbourhood make India's coastline vulnerable to **illegal migration and infiltration**. Illegal infiltration from Pakistan, Bangladesh and Sri Lanka through sea route has been happening in Gujarat, West Bengal and Tamil Nadu etc.

Coastal Security Initiatives

Multiple Agencies for Coastal Security: The multi-agency concept mandates cooperation, coordination, and institutionalised domain control of the respective agency to achieve foolproof security by optimum utilisation of limited resources. Thus a tiered mechanism has been created with stakeholders like Indian Navy, Coast Guard and Coastal Police. In addition, Custom Authorities, Port Authorities, Intelligence Agencies and Other Union and State Departments are stakeholders in ocean governance.



Security Procedures: For effective coordination amongst all stakeholders involved in coastal security, **Standard Operating Procedures (SOPs)** for Coastal Security have been promulgated by the Indian Coast Guard in consultation with all stakeholders.

Maritime Exercises: To ensure a high degree of preparedness for responding to an immediate threat and to streamline the response to more significant threat perception, **Coastal Security Exercise 'Sagar Kavach'** is conducted bi-annually for each coastal state.

Government focus on Coastal Infrastructure: (a) The Government of India has focused on the improvement of infrastructure and assets of the Indian Coast Guard and all concerned agencies to enhance their capabilities for surveillance and patrol at sea; (b) More than 200 **Coastal Police Stations** along with **patrol boats** have been established in the coastal States, including Island territories, for surveillance of shallow waters; (c) Measures such as **coastal mapping**, strengthening of security at non-major ports, setting up of **State Maritime Boards** by coastal States, and **biometric identity cards for fishermen** have also been implemented. These initiatives have been coordinated by Indian Coast Guard for over a decade and have given desirable results.

Technology: The integration of technology with surveillance methodology has been achieved by establishing **Coastal Surveillance Network (CSN)** for seaward electronic surveillance up to 25 Nautical Miles from the coast under which 46 **remote radar stations** have been established. 38 Radar stations, 4 **Mobile Surveillance Systems** and 13 Radar stations under **VTMS (Vessel Traffic Management System) connectivity** are being established for providing near gap-free surveillance.

Patrolling: Joint Coastal Patrol (JCP) by **Indian Coast Guard** and **Coastal Police** has been instituted across all coastal States and Union Territories wherein the Coastal Police Personnel are embarked onboard Coast Guard ships, and deployment is undertaken in coordination with **electronic surveillance measures** for optimum exploitation of resources. The surveillance of 1382 islands is maintained during routine sorties by Indian Coast Guard ships and aircraft. On average, 45-50 Coast Guard Ships and 10-12 aircraft are deployed daily for surveillance of India's EEZ.

Monitoring and Coordination: The **apex level monitoring and review of the implementation of measures** for enhancing the effectiveness of the Coastal Security Framework are done by the **National Committee on Strengthening of Maritime and Coastal Security (NCSMCS)** against

threats from the sea, **Multi-Agency Maritime Security Group** (MAMSG) under the NSA. The **improved information sharing** along with **better inter-agency coordination** and synergy is the hallmark of the coastal security framework.

Multi-Stakeholder Approach: A multi-stakeholder concept has been adopted post 26/11 for coastal security steered through **Chief Secretaries** of the respective coastal states and supervised by the **Ministry of Home Affairs** (MHA), through **Border Management Division** under the monitoring of the **Cabinet Secretary** through the **NCSMCS**. It provides an optimal approach to ensure time-bound implementation of all tasks and a high level of coordination among numerous stakeholders.

PRADHAN COMMITTEE RECOMMENDATIONS

Based on the Pradhan Committee recommendations to beef up coastal security after the 26/11 attacks, the state government has taken the following decisions:

<p>Decided to set up a Marine Police Training Academy at Raigad. Now this is scrapped, academy moved to Gujarat</p>	<p>Created a post of inspector general (coastal security) for better co-ordination and control of coastal police stations</p>	<p>Proposed to establish seven more coastal police stations, procure 14 12-tonne boats and build three jetties</p>
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SECURITY BEEFED UP AFTER 26/11 ATTACKS

The government appointed Navy as the nodal agency to take care of coastal security

Joint operation centres were formed at Mumbai, Visakhapatnam, Kochi and Port Blair

National Command Control Communication and Intelligence Network formed

The Toll-free number 1093 has been set up in all coastal states to help fishermen inform police on any suspicious activity

Aerial surveillance by Indian Navy and coast guard aircraft has been increased by 100%

At least one battleship can respond within 30 mins of alert

At least one aircraft in alert mode to take off within 4 minutes.

OPERATION SAGAR KAVAACH

Under the aegis of the Sagar Kavaach operation, the city police coordinate with the Indian Navy, coast guards and other agencies and regularly conduct drills to check the security preparedness. The operation started after the 26/11 terror attacks



Source: Hindustan Times

Moving Ahead

First, There is need to initiate measures for surveillance in the depth of oceans as the threat to the coastline emanates in deeper waters much beyond the coastline.

Second, a **legislative framework** to establish systems and processes for the protection of India's maritime infrastructure should be created. It will **ensure the accountability of the Executive Agencies** to the representatives of the people.

Third, The capabilities of Coastal Police should be further strengthened through enhancement of infrastructure (like patrol boats) and deployment of modern surveillance technologies.

Fourth, **Inter-agency coordination can be further streamlined** through clearly defined roles to prevent overlapping of authority and conflict.

Fifth, The Government should come up with a comprehensive National Security Doctrine, appropriately addressing Coastal Security concerns.

Read More: [Need for a National Security Doctrine for India – Explained, pointwise](#)

Conclusion

The Coastal Security Construct of the present day has successfully built synergy and coordination, which in the current security environment is very much required and must be continued. The mechanisms of inter-agency coordination should be made more robust and infrastructure should be upgraded to further enhance the Coastal Security Paradigm in India.

Syllabus: GS III, Security challenges and their and management

Source: Yojana November 2022, [IDSA](#)

Supreme Court's Judgment on EWS Reservation – Explained, pointwise

Introduction

A 5-Judge Bench of the Supreme Court has upheld the validity of the 103rd Constitutional Amendment Act (**Janhit Abhiyan v. Union Of India**). The Act has introduced 10% reservation for the Economically Weaker Sections (EWS) in education and public employment. The Act was challenged before the Supreme Court as violative of the Constitution of India in August 2020. The Supreme Court, through a 3:2 verdict, has upheld its validity. There have been widely differing reactions to the SC's Judgment. The Judgment has both been praised and labelled as discriminatory by various legal and policy experts.

What are the provisions of Reservation for EWS?

The 103rd Amendment Act provides for **reservation of jobs** in the Central Government jobs as well as **Government educational institutions**. It is also applicable on admissions to **private higher educational institutions**.

It applies to citizens belonging to the **Economically Weaker Sections** (EWS). This reservation is “in addition to the existing reservations and subject to a maximum of 10% of the total seats in each category”. It mandates **Article 46** of the Constitution (Directive Principle) that urges the Government to protect the educational and economic interests of the weaker sections of society.

The Act has amended Articles 15 and 16 of the Constitution.

Article 15 (6) has been added to provide reservations to economically weaker sections for **admission to educational institutions** including private educational institutions, (whether aided or unaided by the State). The **minority educational institutions** referred to in clause (1) of Article 30 have been **excluded**. The amendment aims to provide reservation to those **who do not fall in 15 (5) and 15(4)** (effectively, SCs, STs and OBCs).

Article 16 (6) has been added to provide reservations to people from economically weaker sections in **government posts**. An explanation states that “economic weakness” shall be decided on the basis of “**family income**” and other “**indicators of economic disadvantage**”.

Challenges to the 103rd Constitutional Amendment Act

The 103rd Constitution Amendment Act was challenged on the following grounds:

- It **violates the basic structure of the Constitution**. The special protections guaranteed to socially disadvantaged groups are part of the basic structure. But the Act departs from this by promising special protections on the **sole basis of economic status**.
- It violates the Supreme Court's ruling in *Indra Sawhney & Ors v Union of India (1992)*, which capped reservations at 50%. The SC held that **economic backwardness cannot be the sole criterion** for identifying a backward class.
- Private, unaided educational institutions have argued that their **fundamental right to practise a trade/ profession is violated** when the State compels them to implement its reservation policy and admit students on any criteria other than merit.

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Read More: [Income Criteria for the Economically Weaker Sections \(EWS\) in India – Explained, pointwise](#)

What has been the decision of the SC regarding the Reservation for EWS?

The 5-Judge Bench of the Supreme Court has upheld the validity of the 103rd Constitutional Amendment Act. The Bench, by a 3:2 majority, held that the Act is not violative of the basic structure of the Constitution. 3 Judges (Justices Dinesh Maheshwari, Bela Trivedi and JB Pardiwala) decided in the favor of the Act, while 2 Judges (Justice S Ravindra Bhat and U U Lalit (now retired)) dissented.

What were the questions considered by the SC in the EWS Judgment?

During the hearing, the Attorney General, representing the Government of India, had drafted 4 issues for the consideration of the Bench. These were **whether the 103rd Constitution Amendment Act breaches the basic structure of the Constitution** by:

(A) Permitting the State to make special provisions, including reservation, based on economic criteria

The majority of the Judges held that **poverty is an adequate marker of deprivation** that the State can address through reservations. The SC in its earlier Judgments had held that "*economic criteria cannot be the sole basis for determination of backwardness*". The Judgment in this case held that this is somewhat restricted to the reservation provided to Social and Economically Backward Classes (SEBC), and EWS is deemed a separate and distinct category.

The majority opinion held that while economically weaker sections (EWS) of the citizens are not declared as socially and economically backward classes (SEBCs) for the purpose of Article 15(4) of the Constitution, separate reservations are not barred by the Constitution (like provisions under free and compulsory primary education).

Hence, it is not violative of the basic structure.

(B) Excluding the SEBCs/OBCs/SCs/STs from the scope of EWS Reservation

The SC held that there cannot be competition of claims for affirmative action based on disadvantages. Reservation cannot be denied to one section (the EWS) because that segment is otherwise not suffering from other disadvantages.

Article 16(4) is exhaustive for reservation in favour of backward classes but the **section is not exhaustive of the concept of reservation**. The provisions of the Amendment Act have introduced another affirmative action that is separate and distinct.

Hence, it is not violative of the basic structure.

(C) Breach of 50% ceiling for reservations

Background: In the *Indra Sawhney Case (1992)*, a 9-judge Bench of the SC had upheld 27% quota for OBCs but had struck down the 10% quota based on economic criteria. The SC had further held that **reservation cannot cross 50%**, unless a special case was made out in “**extraordinary situations and peculiar conditions**”.

In the present Judgment, the SC held that the **50% ceiling is for backward classes** and it “overstretched to the reservation provided for **entirely different class**, consisting of the economically weaker sections”.

(D) Permitting the State to make special provisions for admission to private unaided institutions

Under Article 15(5) of the Constitution, the State has power to make reservations in private educational institutions. **Reservations in private institutions is not per se violative of the basic structure**. Reservations as a concept cannot be ruled out in private institutions where education is imparted. The view concurred with the earlier Judgment in the *Pramati & Society for Unaided Private Schools (2014)*.

Hence the provisions of the **103rd Constitution Amendment Act do not breach the basic structure of the Constitution**.

What is the minority view of the SC Bench?

The minority view has come from Justice S Ravindra Bhat and Chief Justice of India U U Lalit (now retired).

On Economic Criteria: Laws that give benefits based on “only economic criteria” don’t violate the right to equality on their own. However, the Constitution says that **reservations can only be about the community and not about the individual**. So while access “to public goods” such as tax breaks, subsidies can be allowed, reservation in public employment would not be permissible.

On Exclusion of SCs/STs/OBCs/SEBCs: Their **exclusion is unconstitutional**. (a) Those subjected to socially questionable and outlawed practices have been excluded. They are amongst the poorest sections of society. Excluding them goes **against the idea of fraternity**; (b) The exclusion virtually confines SC/ST/OBC within their allocated reservation quotas (15% for SCs, 7.5% for STs, 27% for OBCs); (c) It denies the chance of “mobility from the reserved quota (based on past discrimination) to a reservation benefit based only on economic deprivation”.

It would be arbitrary to exclude socially backward classes on the ground that they already enjoy quota benefits.

On Breach of 50% Limit: The breach of 50% rule could “**eat up the rule of equality**” and become “**a gateway of further infractions**” which in fact would **result in**

compartmentalisation. The rule of equality would then be reduced to the right of reservation. The minority Judges noted that in this regard the observations of Ambedkar have to be kept in mind that **reservations are to be seen as temporary and exceptional or they could eat up the rule of equality.**

The view of the bench regarding private institutions was concurrent.

What should the approach going ahead?

Equal opportunity in education: The Union and State Governments should take a long-term view and work to improve the education infrastructure (at all levels primary, secondary, higher education) and the **quality of education.** Equal opportunities to **quality and affordable education** will reduce the struggle among more and more communities to get classified as 'backward'.

Caste-based discrimination: Justice Bhat in his dissenting Judgment noted the remark of the Dr. Ambedkar that "reservations are to be seen as temporary and exceptional". Unless, the caste-based discrimination is eliminated completely from the society, the grounds for caste based reservation will exist and remain valid.

Conclusion

The opinion of experts on the Judgment seems to be divided. Reservation remains an emotive and politically sensitive issue in India. The long term solution lies in sensitization and eliminating discrimination of all kinds through social and political mobilization. Unless that happens, status quo (on reservations) or demands for even further expansion of reservations will continue.

Syllabus: GS I, Social Empowerment; GS II, Government policies and interventions for development in various sectors and issues arising out of their design and implementation; GS II, Welfare schemes for vulnerable sections of the population by the Centre and States and the performance of these schemes.

Source: [Indian Express](#), [The Hindu](#), [The Times of India](#), [Mint](#), [Live Law](#)

[Kurukshestra November Summary] Technology and Innovation in Healthcare – Explained, pointwise

Introduction

The COVID-19 pandemic presented an unprecedented challenge to the healthcare system all over the world. It made evident the inadequacy of the the healthcare infrastructure. Due to the overburdened system, social distancing norms and the fear of infection, many life-saving surgeries and transplants were postponed. This has driven healthcare providers to embrace technology in healthcare services delivery along with innovation systems to continue provision of services to the patients in such crises.

Technological Progress and Digitalisation of Healthcare

Healthcare is slowly moving from healthcare facilities, focusing on patient facilities (homes) and technology is driving this transition. Fear of COVID-19 infection boosted virtual counselling through telemedicine. Tele consultation has received increased acceptance among doctors, patients, insurers, and others in the wellness ecosystem.

In 2020, the Ministry of Health and Family Welfare (MoHFW), NITI Aayog, and the Board of Governors of Medical Council of India (MCI) issued the **Telemedicine Practice Guidelines** enabling medical practitioners to provide healthcare using telemedicine. It has helped in democratisation of the provision of health services.

It has also **helped bridge the urban-rural healthcare gap** by providing super speciality support to tier 2 and tier 3 regions, making life easier for people in rural and remote areas. The Indian healthcare system has witnessed a paradigm shift in ensuring quality healthcare delivery to citizens in the last decade. Increasingly, the technology has been leveraged for better reach and patient care.

The application of digital technologies including **Artificial Intelligence (AI)**, **Machine Learning (ML)**, **data analytics**, **Internet of Things (IoT)**, **cloud computing**, and **robotics** is increasing in each facet of the healthcare system.

Geographical Restrictions

More than 65% of India's population resides in rural areas. Access to timely and quality healthcare is lacking in rural India. Healthcare services in the country lean heavily towards urban areas. Due to limited infrastructure and the poor availability of qualified health professionals in rural areas, residents often travel long distances to receive specialised treatment in cities. This results in waste of time, energy and resources of the poor rural residents.

Emergence of Digital Healthcare in India

Interoperability is the ability of systems to be able to communicate with each other and make use of the information obtained through each other without any restrictions. It is common in sectors like banking and finance. Its usage is independent of an individual's location. Interoperability of systems is missing in the healthcare sector. The **Electronic Health Records (EHR)** of people are not easily available or communicated within doctors, hospitals, pharmacies, etc. due to **constraints like security, permission, cost, and platform** etc. This results in the **decline of good quality healthcare** available to all.

Phones and other modes of communication are insufficient in providing enough information to doctors to completely analyse their patient's condition and undertake diagnosis and advise prescription. Also, the amount of healthcare-related data generated is humongous (big data). It is impossible to keep track of every patient's medical record at all times. A lack of awareness and healthcare for all citizens add on to the existing problem. This creates hurdles in ensuring platform of interoperability in the Indian healthcare system.

The **Ministry of Health & Family Welfare (MoHFW)** notified the **EHR standards** for India in September 2013. **Revised EHR Standards were notified in December 2016**. The review report by the Ministry of Electronics and Information Technology (MeitY) titled '**Adoption of Electronic Health Records: A Roadmap for India**', highlighted that Government hospitals and dispensaries have **very little ICT infrastructure**, with only some major public hospitals having computers and connectivity.

In the light of the COVID pandemic, the **National Digital Health Mission ([Ayushman Bharat Digital Mission](#))** was launched in 2020, under the implementation of the **National Digital Health Blueprint**. It seeks to **create a single repository of medical records of all citizens**. Under this, every Indian will get a **unique Health ID** under the National Digital Health Mission (NDHM). The Health ID will contain information about every test, disease, medicine, and associated reports of a patient which can be accessed by an authorised person from anywhere across the country.

Read More: [PM ABHIM \(Ayushman Bharat Health Infrastructure Mission\) – Explained pointwise](#)

The Union Government has been working on **developing digital modules and registries**. The mission has been rolled out in 6 union territories (UTs) across the country. 3 key registries of NDHM namely **Health ID**, **Health Professional Registry (HPR)**, **Health Facility Registry (HFR)**,

and **digital infrastructure for data exchange** have been developed and implemented in these UTs. INR 45 crore has been released to the National Health Authority (NHA) for implementation of ABDM. Till March 2022, a total of 20,97,55,222 Health IDs (ABHA Number) have been created.



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YOU CAN NOW
GENERATE YOUR
**AYUSHMAN
BHARAT
HEALTH
ACCOUNT
NUMBER**
FROM THE AAROGYA
SETU APP

**Ayushman Bharat
Digital Mission (ABDM)**
is now integrated with
the Aarogya Setu app

**ABHA number links
existing & new medical
records** for availing
healthcare services digitally

Over 21.4 crore Aarogya Setu users can now create their **14-digit ABHA*** numbers from the app
*Ayushman Bharat Health Account

ABHA number can also be generated from <https://abdm.gov.in>

Source: Kurukshetra November 2022, mygov.in

A comprehensive EHR would be beneficial to rural patients as it would include patient's health problems, their lifestyle and habits (like blood-pressure monitors). Genomic data can also be added to the EHR, including certain drugs that may or may not match the patient's genome. Genomic data can help in: **(a)** Allowing a doctor to know if a specific type of drug will work for a patient without trying many different treatments; **(b)** Save both doctors' and patients' time by **eliminating the need for multiple follow-up appointments, lowering the cost of treatment,**

and potentially **reducing the risk of allergies** and side effects; **(c)** Shift healthcare from reactive to proactive, allowing doctors to address potential problems long before they become a risk.

Read More: [\[Kurukshetra February Summary\] Ayushman Bharat: Achieving Universal Health Coverage – Explained, pointwise](#)

Scope of Remote Healthcare in India

One of the main barriers to patient care is **medical prescription and delivery**, and this can also be done remotely. **Medicine ‘ATMs’**, already in use in rural areas of South Africa, ensure that patients obtain their medication in a medically safe way, without relying on inaccessible pharmacists or doctors. These ‘ATMs’ can be effectively scaled to become an information kiosk and patient portal that **can support diagnosis, testing, and medication prescription**. It will help reduce pressure on hospitals and community health.

Challenges faced by rural communities include lack of **healthcare expertise** (difficult to attract and retain medical staff in rural areas) and **poor infrastructure**.

Incorporating technology in healthcare systems can address these challenges. Technology can **bridge the infrastructure and expertise gap**. Virtual reality can be used in rural areas to assist healthcare professionals with appropriate training.

Due to severe shortages of intensive care staff (ICU) in hospitals during the pandemic, many providers have built remote or smart ICUs. This facility has allowed them to **serve more patients simultaneously**.

The **Internet of Medical Things (IoMT)** is the **collection of medical devices and applications that connect to healthcare IT systems through online computer networks**. IoMT devices can transmit all essential clinical data to the consulting physician in real-time and help the treating physician make appropriate clinical decisions. **AI and predictive analytics** support many of these IoMT tools that help **predict a patient’s likely future condition**. These tools are helpful in **preventive medicine** and wellness.

According to McKinsey’s latest report: **(a)** Tele health will be a quarter-trillion-dollar industry post-COVID; **(b)** The use of tele health has increased 38-fold from the pre-COVID baseline; **(c)** The industry is projected to reach USD 10.6 billion in India by 2025; **(d)** Integration of tele health with other virtual health solutions and hybrid models is driving the industry; **(e)** The report says that these systems can improve the consumer experience, quality, accessibility, affordability, and outcomes. It has resulted in a drastic **reduction in treatment costs** while making deliveries more accurate.

Remote Healthcare for Rural India

Virtual consultation need to be complemented by **physical/OPD counselling**. Then patients can develop more confidence in the care provided. This physical model also facilitates post-operative care and second opinions for patients in smaller cities, thus eliminating the need to travel to larger metropolises for treatment, saving them time, money, and lost productivity. Remote care also protects them from any hospital-acquired infections.

Start-up Initiatives

Innovative start-ups, supported by the Government, across the nation are providing healthcare services enabled with the latest and most efficient technologies. The **Atal Innovation Mission (AIM)** has been set up by the Government to promote a culture of innovation and entrepreneurship. AIM supports the establishment of new incubation centres called **Atal Incubation Centres (AIC)**.

AIC LMCP Foundation, Gujarat has incubated a start-up named **Rises Analytics** which is working on **high-tech healthcare AI solutions**. It has the vision to **bridge the gap between patients and timely medical intervention**. It also aims to extend **diagnostic decision support to healthcare professionals** in order to serve patients with efficacy, accuracy, and insights, with innovative technology TRAP (Treatment Response Assessment and Predictions). It gives chronic and critical care solutions for cancer and pulmonary conditions including COVID-19.

ZiffyHealth (incubated at AIC Pinnacle Entrepreneurship Forum, Maharashtra) is aspiring to evolve a robust and scalable healthcare platform, whereby all stakeholders (patients, doctors, and pharmacies) can have a seamless and **highly secured flow of health data** so as healthcare delivery can be accessible and affordable to the bottom of the semi-urban and rural Indian population.

Volar Alta (incubated at AIC-RNTU, Madhya Pradesh) is the one-stop shop for **drone-based services**. They specialise in surveillance, asset inspections, and **transportation of medical essentials in rural and hard-to-reach locations using drones**, minimising the time, and ensuring safety.

Conclusion

The scope for the digitisation of rural healthcare in the nation is massive. Once Internet connectivity improves, the **rural-urban divide can be bridged** more efficaciously. India's healthcare systems need **viable platforms** that enable medical staff to transform their services systematically, reliably, and sustainably to improve quality of life. Leveraging technologies such as AI, Machine Learning, and Blockchain to advance interoperability in healthcare is an incredible prospect for the government looking at creating jobs and better employment opportunities.

Syllabus: GS II, Government policies and interventions for development in various sectors and issues arising out of their design and implementation; GS II, Welfare schemes for vulnerable sections of the population by the Centre and States and the performance of these schemes.

Source: Kurukshetra November 2022

Trade Settlement in Rupee – Explained, pointwise

Introduction

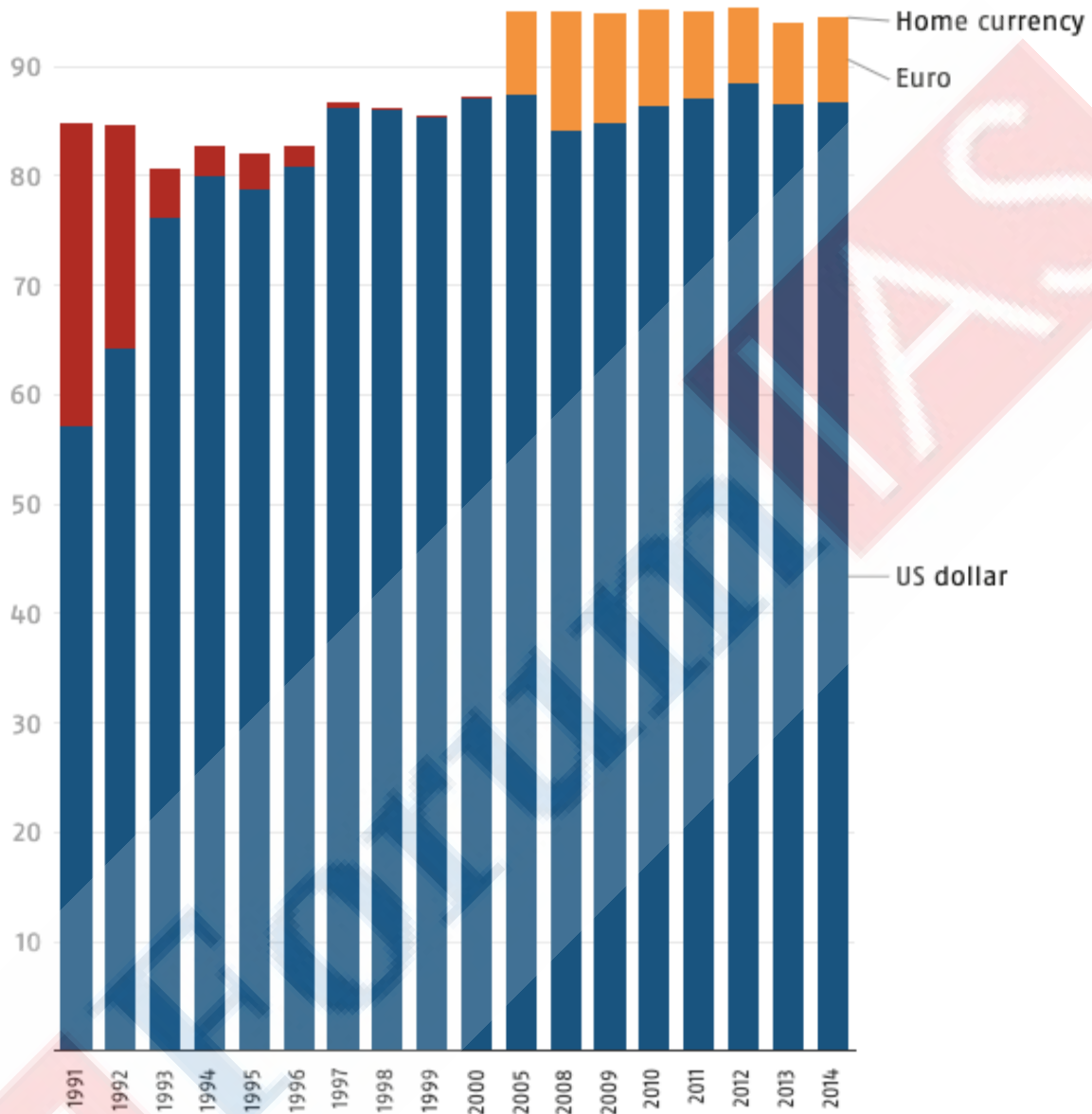
In July 2022, the RBI had issued a circular allowing international trade settlement in Rupees. The move had come amidst continuous fall in the value of Indian Rupee against the US Dollar. It is expected that the decision to allow Indian traders to settle imports and exports in rupees will ease the demand for US Dollar and help control the falling exchange rate. In addition, it will also help in facilitating trade with Russia which is facing sanctions imposed by the US-led Western nations, and is cut-off from accessing international financial mechanisms. The move has many benefits, however, there are certain challenges that must be addressed to ensure the efficacy of the decision and achieve desired outcomes.

What measures have been announced for Trade Settlement in Rupee?

At present, the majority of India's trade (exports and imports) transactions are undertaken in foreign currency, primarily the US Dollar, and to an extent in Euro. The share of US Dollar (US\$) in India's export transaction settlement has risen from ~57% in 1991 to ~87% in 2014. Similarly the share of US\$ in import transactions has risen from 59% in 1991 to 89% in 2014.

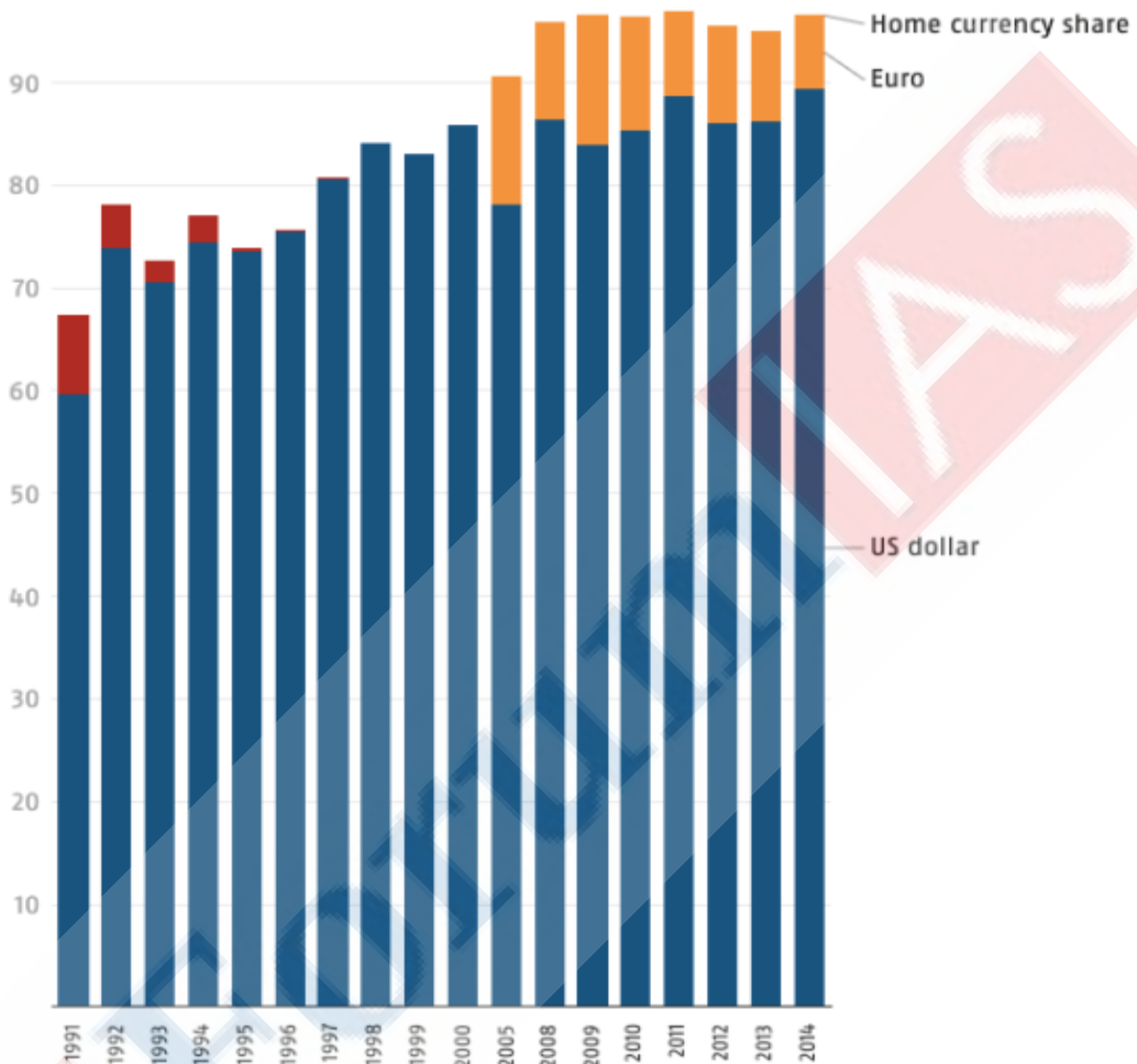
Dollar has been the main currency for India's exports

Shows export invoice share (in %)



Dollar share in imports was less than 60% in 1991

Shows import invoice share (in %)



Source: Business Standard

This means that the Indian traders have to pay US Dollar to the import suppliers (in foreign countries), and receive US Dollar from the export receivers (in foreign countries). This creates a huge dependence of traders on US Dollar. It also exposes them to **currency risk**. With the rising interest rates in the US and increasing volatility (fluctuation) in exchange rate of the Rupee with US Dollar, this risk has increased.

To reduce this dependence, the RBI has allowed International Trade settlements in Indian Rupees (INR). The new measures are based on the framework for cross border trade transactions in INR under the **Foreign Exchange Management Act, 1999 (FEMA)** and **Foreign Exchange Management (Deposit) Regulations, 2016**.

For the purpose of transaction in Rupee, the **exchange rate between currencies** of two trading partner countries (say Rupee and Rouble) may be **market determined**.

The transactions shall be settled through Vostro accounts. For this purpose Indian banks may open Special Rupee Vostro Accounts of correspondent bank/s of the partner trading country.

Indian importers undertaking imports through this mechanism can make payment in INR which will be credited into the Special Vostro account of the correspondent bank of the partner country. Indian exporters, undertaking exports of goods and services through this mechanism, will be **paid the export proceeds in INR from the balances in the designated Special Vostro account** of the correspondent bank of the partner country.

The Rupee surplus balance accumulated in Vostro account (in case imports from a country exceed exports to that country) may be used for **permissible capital and current account transactions**. The balance in Special Vostro Accounts can be used for: **(a)** Payments for projects and investments; **(b)** Export/Import advance flow management; **(c)** Investment in **Government Treasury Bills**, Government securities (subject to FEMA and similar statutory provisions).

What factors have necessitated Trade Settlement in Rupee?

Global Capital Reallocation: The US Fed has been raising interest to combat domestic inflation in the US. This has led investors to shift their capital to the US (in search of higher returns in the US), depreciating major currencies with respect to the Dollar. Rupee has crossed INR 80 level vis-a-vis dollar. This has put pressure on India's forex reserves and made imports more expensive.

Read More: [Fall in Rupee Value: Reasons, Concerns and Solutions – Explained, pointwise](#)

Russia-Ukraine Conflict: The conflict has extended to 9 months with no end in sight. It has led to global rise in prices of commodities including food items and energy sources (oil and gas). Russia has reduced gas supply to Europe leading to rise in global prices (supply-demand mismatch).

Moreover, the sanctions imposed by Western nations on Russian firms have made it difficult for India to import oil from Russia. Russian Banks and firms have been barred from accessing global financial settlement mechanisms. Hence an alternate mechanism for trade settlement is required.

Widening Trade Deficit: Despite a historic uptick in exports, the Current Account Deficit (CAD) is projected to more than double to US\$ 100 billion in 2022-23. It might approach the critical level of 3% of GDP. Higher value of US Dollar will increase India's imports further putting pressure on CAD and forex reserves.

Imported Inflation: Since India imports almost 85% of its annual oil needs, a weaker currency increases the risk of imported inflation in India.

What are the benefits of Trade Settlement in Rupee?

Shift in Dominant Currency Paradigm: Deputy Director of IMF, Gita Gopinath, recently remarked that the International trade today is centred on the 'Dominant Currency Paradigm' (DCP), in which the **US dollar holds predominance** as the source, destination and vehicle currency. This makes trade of other countries susceptible to fluctuation in the value of US Dollar. Trade settlement in Rupee will assist lessen India's dependency on US dollars and therefore shift in this paradigm.

Flexibility to Traders: Traders from both India and other trading countries involved in the transaction will benefit because they won't have to pay to convert the money or worry about the variation in the exchange rate.

Circumvent Sanctions: Circumventing the **SWIFT** (system used by banks for payments in foreign currency) system and paying for imports in rupees would help India work around the sanctions imposed on Russia and Iran and facilitate access to cheaper oil.

Reduce Outflow of US Dollar: India runs a trade deficit (imports are greater than exports), this means more dollars are paid for imports than gained through exports. Trade settlement in Rupee will save dollar outflows. At a time when the rupee's value is declining against the US dollar, saving dollar outflows becomes even more critical for the RBI.

Addressing the issue of US dollar Mobilisation: Traders from several parts of Africa, South America and Asia are unable to mobilise the US dollar for invoicing. The problem of mobilising the US dollar affects trades between these countries and the rest of the world. If these countries are willing to invoice exports and imports trade in Rupee, it will brighten the prospects of their bilateral trade with India.

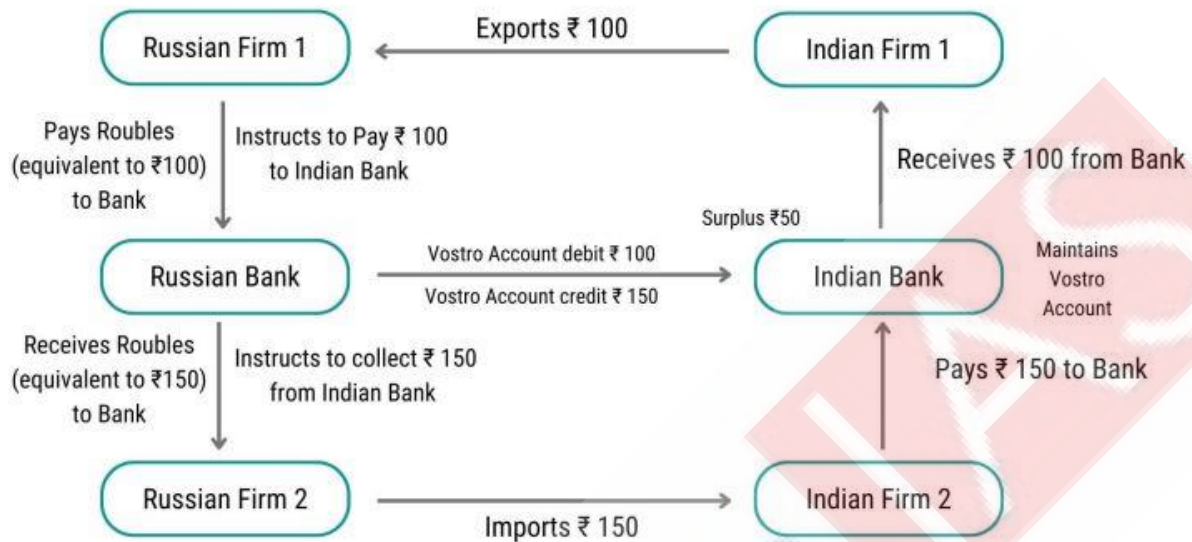
Internationalise the rupee: A **transparent and efficient framework** for conducting international trade transactions in Rupee is the first step towards the path of Rupee's acceptance as a global currency. The present status is far from Rupee becoming a reserve currency, nevertheless, this is a small first step.

Geopolitics: The move is significant in international politics because it indicates the beginning of more coordinated efforts to settle payments in non-dollar currencies among Brazil, Russia, India, China, and South Africa (BRICS), with other South Asian nations also interested. In these uncertain times, when China and Russia are creating alternative payment systems, this would strengthen the position of the Indian rupee on the international stage.

What are the challenges in Trade Settlement in Rupee?

Bilateral Trade Equilibrium: Countries whose exports to India are more than imports, will not be too enthusiastic to trade in rupees. As long as the trade is in equilibrium (exports equal to imports), the Vostro account mechanism will work efficiently. However, excess of imports over exports will lead to surplus in Vostro account, which has limited benefit for the trading country e.g., in 2021, India's exports to Russia were at US\$ 3.3 billion while its imports from Russia were at US\$ 8.6 billion. This means that international trade settlement in rupee can happen up to US\$ 3.3 billion where exports and imports are equal. Beyond this point, Russia has excess of US\$ 5.3 billion which gets locked in Indian Rupee. At most, they can invest in Government Securities which offer limited return.

Working of Vostro Account



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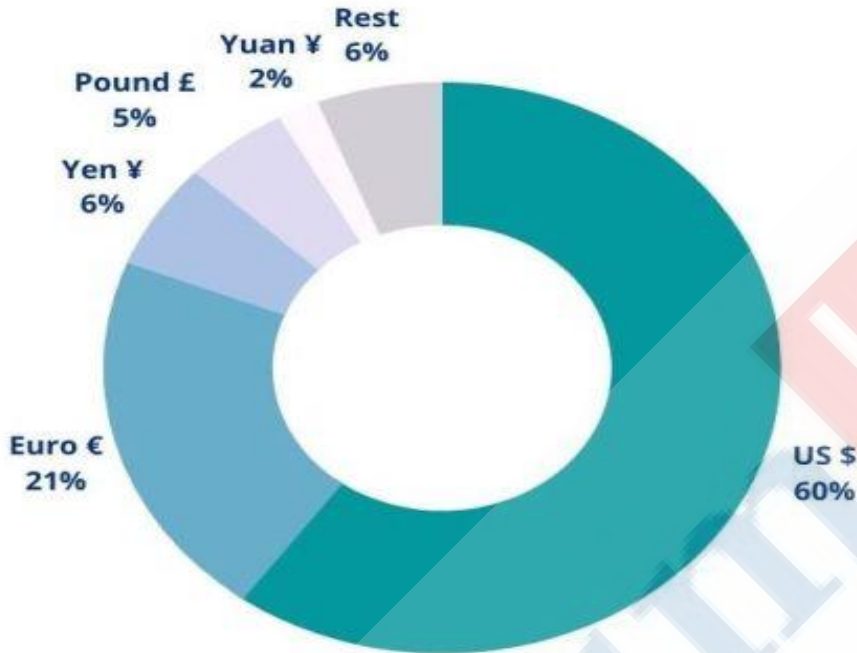
In the above simplified transaction, the Vostro Account has surplus of INR 50 as imports are worth more than exports. If there is persistent trade deficit the surplus will keep on accumulating. Due to capital restrictions, the Russian Bank will find it difficult to withdraw this surplus (hence can't reinvest and earn returns).

Moreover, Rupee is not a fully convertible currency in Capital Account. Therefore, investment in government securities and bonds cannot be repatriated back to Russia.

Limited Scope: Trade settlements in rupee will be limited to countries like Russia and Iran, which are facing sanctions from the West, and Sri Lanka, which is going through an economic turmoil, and a few other immediate neighbours of India. **India's share in global trade is not significant enough** and India's dependence for import of fossil fuels, edible oils, gold etc. is quite large. It is unlikely that exporting countries will consider Indian rupee as a currency of invoicing, unless it suits their interests. The position of US Dollar as international reserve and trading currency appears too strong at present.

Foreign Reserves

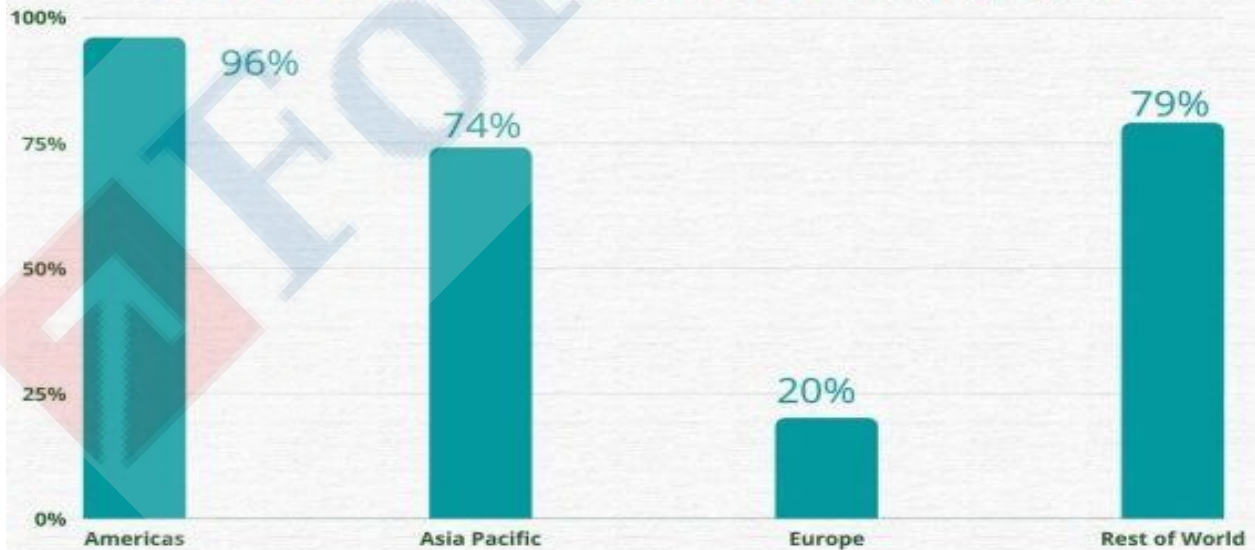
Share of Currencies in globally disclosed Official Foreign Reserves



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International Trade

Share of Dollar in International Trade Invoicing by Regions



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The US Dollar is dominant currency in International Trade. 74% of trade in Asia Pacific is invoiced in US\$. Share is low in Europe where majority of trade is invoiced and settled in Euro (€).

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Bilateral Exchange Rate: The international trade transactions between two countries are shaped by various factors such as political and economic relations, availability of goods, quality and competitive pricing etc. Exchange rate happens to be one of the factors in deciding trade. All elements have to be examined seriously which directly impact the landed cost for importers.

Trade Protectionism: In the prevailing global trade protectionism and geopolitical rivalries, each country wants to promote exports and reduce imports. Invoicing in Indian Rupee and not depending on US Dollar may upset India's relationship with the US. It may also have an indirect impact on services sector for which we are dependent on developed markets like the US and Europe.

What can be done going ahead?

First, To promote rupee for international trade settlements, India needs to enhance its export competitiveness. Rise of share of Indian goods in global trade will create a demand for Indian Rupee as well and make it a more tradable currency.

Second, This should be supported by critical reforms in financial markets which include **capital account convertibility**, deepening financial markets coupled with large financial institutions other than the RBI to manage the large scale inflow and outflow of capital.

Conclusion

The RBI's decision to allow trade settlement in Rupee has been welcomed by economic experts. It is expected to lead to many macroeconomic benefits like curbing CAD, reducing pressure on forex reserves etc. among others. However, there are still many challenges to wider acceptance of trade settlement in Rupee. That would be possible only in the long term by making Indian exports more competitive accompanied by financial sector reforms.

Syllabus: GS III, Indian Economy

Source: [Indian Express](#), [Mint](#), [The Hindu BusinessLine](#), [The Times of India](#), [RBI](#)

India's Agriculture Exports: Status and Challenges – Explained, pointwise

Introduction

India's agriculture exports have grown by 16.5% in April-September 2022 (on a year-on-year basis) compared to April-September in 2021. With the current trend the agriculture exports appear set to surpass the record US\$ 50.2 billion achieved in FY2021-22 (April-March). Agriculture exports have witnessed impressive growth in recent times. A focused approach by the Government with favourable policy measures have been hailed as the reason behind the success. However, according to some critics, the current performance is due to rise in global commodity prices because of various climatic and geopolitical factors. The Government agencies mandated with the task of export promotion can achieve much more. Nevertheless, noted agricultural economist like Ashok Gulati have praise Government's efforts and recommend measures to sustain this growth in exports further.

What is the trend of India's Agriculture Exports?

India's agricultural exports crossed US\$ 50 billion during the fiscal year ended March 31, 2022.

INDIA'S AGRICULTURAL TRADE (IN \$ MN)				INDIA'S TOP AGRI-IMPORT ITEMS (IN \$ MN)			
	Exports	Imports	Surplus		2021-22	Apr-Sep 2021	Apr-Sep 2022
2012-13	41.73	18.98	22.75	Vegetable oils	18991.62	8862.38	11097.72
2013-14	43.25	15.53	27.72	Fresh fruits	2460.33	1101.08	1237.86
2014-15	39.08	21.15	17.93	Pulses	2228.95	835.35	595.78
2015-16	32.81	22.58	10.23	Spices	1299.38	658.37	755.27
2016-17	33.70	25.64	8.05	Cashew	1255.46	755.62	1412.52
2017-18	38.90	24.89	14.01	Natural rubber	1032.71	442.99	542.18
2018-19	39.20	20.92	18.28	Alcoholic beverages	693.23	319.28	435.80
2019-20	35.60	21.86	13.74	Raw cotton	559.55	297.25	1081.16
2020-21	41.90	21.65	20.24	TOTAL*	32422.30	15119.78	19309.05
2021-22	50.24	32.42	17.82				
Apr-Sep 21	22.98	15.12	7.86				
Apr-Sep 22	26.77	19.31	7.46				

Source: Indian Express

India's top export items include **marine products** (US\$ 7.8 billion), **Rice** (US\$ 9.6 billion, Basmati + Non-basmati), **Sugar** (US\$ 4.6 billion), **Spices** (US\$ 3.9 billion) etc. among others. However, some items (including rice and cotton) have witnessed stagnation in the export levels.

INDIA'S TOP AGRI-EXPORT ITEMS (IN \$ MN)			
	2021-22	Apr-Sep 2021	Apr-Sep 2022
Marine products	7772.36	3836.75	4120.08
Non-basmati rice	6133.63	2968.77	3207.29
Basmati rice	3537.49	1659.60	2279.66
Sugar	4602.65	1820.68	2649.00
Spices	3896.03	1992.11	1928.67
Buffalo meat	3303.78	1593.60	1636.54
Raw cotton	2816.24	1137.83	435.87
Wheat	2122.13	630.15	1487.47
Fruits & Vegetables	1692.48	736.71	752.98
Processed F&V	1190.59	583.89	694.63
Castor oil	1175.50	615.62	662.93
Oilseeds	1113.65	453.28	531.02
Other cereals	1087.39	467.42	524.85
Oil meals	1031.94	471.65	556.61
Coffee	1020.74	460.40	610.23
TOTAL*	50240.21	22984.54	26771.64

*Includes all other items.

Source: Indian Express

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India's agriculture exports have witnessed an impressive growth in the last 3 decades. India has been a **net exporter of agriculture products** (exports greater than imports). Technological advancements, government incentives, and institutional changes have contributed to a massive increase in agricultural output. This has resulted in growth in agriculture exports.

According to NABARD, India's Agriculture Exports have increased from **INR 6,012.76 crore in 1990-91 to INR 305,469 crore in 2020-21**. In the corresponding period, imports have increased from INR 1,206 crore to INR 157,788 crore. India's net **agri-export surplus has also increased from INR 4,806.9 crore in 1990-91 to INR 147,680.84 crore**.

The **share of agricultural exports to agricultural Gross Value Added (GVA)** increased from 3.88% in 1990-91 to 13.64% in 2013-14. However, it has **slipped to 8.45% in 2020-21**.

Share of Agriculture exports in total exports has shown a varying trend. It rose from 18.47% in 1990-91 to 20.33% in 1996-97. It had fallen to 9.64% in 2008-09 and rose back to **14.2% in 2020-21**. Share of Agriculture exports in global agriculture exports rising from 0.94% in 1991 to 3.04% in 2013.

What are the opportunities to India's Agriculture Exports?

India's large **extent of arable land**, complemented by **diverse agro-ecological conditions** provide huge potential for cultivation of agriculture products.

India's spices and fruits are famous around the world for their **high quality**.

India **leads global production** in several commodities. According to the FAO, India is the largest producer of milk, pulses and jute, and ranks as the second largest producer of rice, wheat, sugarcane, groundnut, vegetables, fruit and cotton. India is also one of the leading producers of spices, fish, poultry, livestock and plantation crops.

Globally, India **ranks second in total agricultural production** at US\$ 367 billion, yet India's share in export market is minuscule. This indicates huge opportunity in scaling up the exports. As **global value chain diversification** becomes a priority around the world, India has an excellent opportunity to scale up agri-exports and rapidly transform the agri-economy.

Effective action at multiple levels, from **farm inputs, quality assurance, traceability and certification**, to **building connections to global value chains** (GVCs) can help India reach the US\$ 100 billion milestone in agri-food exports in the next few years.

What are the benefits of enhancing India's Agriculture Exports?

Largest sources of livelihood: Agriculture, with its allied sectors, is the largest source of livelihoods in India. It employs 152 million Indians as of 2021. 70% of rural households still depend primarily on agriculture for their livelihood.

Increase Farmers Income: Increase in export of agri-commodities at globally competitive prices will help increase income for farmers. However, there is a need to ensure that farmers, instead of middlemen, benefit from the farm exports.

Rural Development: Improvement in farm incomes will boost rural demand and contribute to growth of rural economy and development.

Trade Balance: Agriculture exports have consistently outperformed agri-imports. Agriculture sector has regularly maintained a trade surplus. This helps in mitigating Current Account Deficit (CAD) and help enhance forex reserves.

What are the challenges to India's Agriculture Exports?

Inward-looking policies: India's agriculture policy is focused more on food security and price stabilization, impacting policy approach to agriculture exports. This was evident recently with bans on exports of wheat and rice. Agri-exporters are impacted by frequent flip-flops in the policy. The policy **deprives farmers of higher prices in the international market**. Import restrictions when international prices are at a peak, **reduce incentives for farmers** to cultivate exportable crops.

Value Addition: Majority of India's agriculture exports consist of low-value and semi-processed items which have limited demand in global markets. The proportion of food processed in India (of the total production) is very low.

Lack of uniformity: Lack of uniform quality standards, standardization of commodities and high losses in value chain have limited the potential of export of horticulture produce.

Maximum Residue Limit (MRL): India's agricultural products are rejected to presence of Pesticide and chemical residues above the Maximum Residue Limit (MRL) of importing nations. In the past, India's products like basmati rice, grapes and peanuts have been rejected.

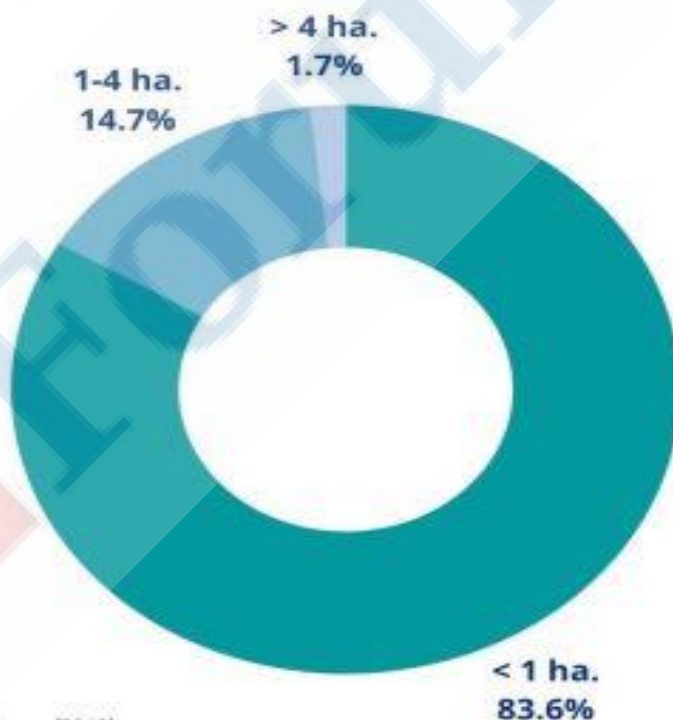
The lack of awareness among farmers regarding the appropriate amount and timely use of chemicals is a major obstacle.

(The traces pesticides leave in treated products are called "residues". According to the FAO, a maximum residue limit (MRL) is the highest level of a pesticide residue that is legally tolerated in or on food when pesticides are applied correctly in accordance with Good Agricultural Practice).

Low Yield: The yield levels of the majority of crops in India remain much lower than the global average. This is compounded by fragmented landholdings. The average farm size in India is only 1.15 hectares. Majority of the Indian farmers belongs to small and marginal category. A large proportion of domestic production is used for self-consumption, reducing availability for exports.

Distribution of Landholdings in India

Almost 5/6th of landholdings in India are smaller than 1 hectare (ha.). The Average area per landholding is 0.9 ha. The average landholding per household is 0.51 ha.



Source: NSO 77th Survey (2019)

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What steps have been taken to boost Agriculture Exports?

Agriculture Export Policy 2018 (AEP): The Government of India has introduced a comprehensive Agriculture Export Policy (AEP) to **promote exports of agricultural products.**

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The key objectives of the AEP are to: **(a)** Diversify export basket and destinations; **(b)** Boost high value-added agricultural exports; **(c)** Promote indigenous, organic, traditional and non-traditional Agri products exports; **(d)** Provide an institutional mechanism for pursuing market access; **(e)** Enable farmers to get benefit of export opportunities in overseas market.

Financial Assistance Scheme (FAS): It is the **export promotion scheme** by the **Agriculture and Processed Food Products Export Development Authority (APEDA)**. The primary aim of this scheme is to **assist businesses in export infrastructure development**, quality development and market development. The financial assistance under the scheme will range from INR 5 lakh (US\$ 6,500) to INR 5 crore (US\$ 650,000).

Ministry of Commerce & Industry Schemes: The Ministry of Commerce & Industry has also initiated several schemes to promote exports, including **Trade Infrastructure for Export Scheme (TIES)**, **Market Access Initiatives (MAI)** Scheme etc.

In addition, assistance to the exporters of agricultural products is also available under the **Export Promotion Schemes** of APEDA, Marine Products Export Development Authority (MPEDA), Tobacco Board, Tea Board, Coffee Board, Rubber Board and Spices Board. Further, to boost honey exports, India has made NMR (Nuclear Magnetic Resonance) testing mandatory for honey exported to USA.

The Department has constantly synergized with the Ministry of Food Processing Industries for effective utilization of **Operation Green scheme**, which has been extended to most of the horticultural crops due to COVID-19.

The Ministry has also collaborated with the Ministry of Civil Aviation and the Railways (and 5 other Ministries) in utilization of **Krishi Udan** and **Krishi Rail** respectively, to **ease out pressure of high freight rates**. The effort resulted in **smooth movement of perishables** to the important Middle East, EU and South East Asian markets. The Krishi Rail project has decisively helped exporters of fresh fruits and spices from the North Eastern States.

Agriculture and Processed Food Products Export Development Authority (APEDA): It was formed in 1986, under the APEDA Act 1985 for the **development of the exports of the agriculture sector in India**. The main functions of the authority are the registration of people as exporters, **fixing standards and specifications for the scheduled products, carrying out inspections**, collecting statistics and providing information, **training and advisory services to the exporters**.

Virtual Buyer Seller Meets (V-BSM): The Government of India has been organising virtual buyer seller meets (V-BSM) on agricultural and food products with the major importing countries across the world to promote geographical indications (GI) registered with agricultural and processed food products in India. So far 17 V-BSMs have been organised with countries like Canada, Germany, Switzerland, Belgium, UAE and USA etc.

Agri-Cells: The Government has set up 13 Agri-Cells in Indian embassies in Vietnam, USA, Bangladesh, Nepal, UAE, Iran, Saudi Arabia, Malaysia, Indonesia, Singapore, China, Japan and Argentina to provide inputs on real time basis to improve Indian exports at these destinations by promoting trade, tourism, technology and investment goals.

Farmer Connect Portal: A Farmer Connect Portal has been set up on APEDA's website for providing a platform for FPOs/FPCs, cooperatives to interact with exporters. Around 2360 FPO/FPCs and 2324 exporters have been registered so far.

Cluster Development: As part of the Agriculture Export Policy, 46 unique product-district clusters have been identified for export promotion. 29 Cluster Level Committees have been formed in different clusters like Varanasi (Fresh Vegetables), Ananthpur (Banana), Nagpur (Orange), Lucknow (Mango) etc.

What steps can be taken to further enhance Agriculture Exports?

Empowering the farmer to improve quality: Farmers should be trained about export standards and compliances. Tools that measure quality and residue levels can be provided to farmers to make farm produce export competitive. *Krishi Vigyan Kendras* can be engaged to take export-oriented technology to farmers and creating awareness among farmers about export opportunities.

Branding Produce from Export Clusters: Export clusters (like Nagpur for Orange) lack organised marketing and branding support for their products. Branding will help ease their entry into international retail chains. Products such as Zespri Kiwi, Washington Apples, and California Almonds have benefitted greatly from marketing and branding, helping the farmer-producers get fair compensation for their produce.

Promoting Niche Indian products: Traditional wisdom and nutritional value of niche Indian food products, such as Indian variants of millets, fruits, rice, and oilseeds make them excellent export choices. Government support in promoting these products (similar to the International Yoga Day initiative), will go a long way in making niche Indian products stand out in international markets.

Connect to GVCs: There is a need to connect Farmer Producer Organisations (FPOs) with global value chains and importers from other markets. It can help them understand quality needs and the importers can be assured of quality standards.

Addressing Logistics glitches: Agricultural commodities are perishable; and so logistics must be robust, containers made available timely, and freight costs stabilised. The Government must engage in dialogue to ensure importing nations of its capabilities and include these issues in the trade negotiations framework.

Bilateral trade and sectoral agreements: The Ministry of Commerce should build bilateral trade and sectoral agreements to ensure favourable tariffs for India's agriculture exports. Government should also negotiate to **address the non-tariff barriers** that Indian exports face like the quality and testing protocols, fair trade certifications etc.

Research and Development: It is important to promote R & D activities for new product development for upcoming markets, like fortification of food products.

Conclusion

India's Agriculture Exports have performed well in recent times. The Government's policy initiatives have led to many positive outcomes. However, the level of exports is still below the potential level. The Government should continue the efforts to facilitate the agriculture exports further. Enhancing agriculture exports is one of the most potent lever in improving farm incomes and ensuring rural development.

Syllabus: GS III, Indian Agriculture, Marketing of Agriculture Produce.

Source: [Indian Express](#), [Indian Express](#), [Indian Express](#), [The Hindu BusinessLine](#), [NABARD](#)

Climate Finance: Meaning, Need and Challenges – Explained, pointwise**Introduction**

At the opening of the COP27 of the United Nations Framework Convention on Climate Change (UNFCCC), former Vice President of the US and Environmentalist, Mr. Al Gore remarked that, "*We are not doing enough*". He was referring to the renewed focus on exploitation of fossil fuels and the lack of flow of Climate Finance (money) to the developing countries to enable them to adapt to the Climate Change. Developed nations at COP15 (Copenhagen, Denmark) in 2009 had pledged US\$ 100 billion in assistance each year. However, they have failed to fulfil the pledge

with the funding falling short of the target. Developing nations, including India, have voiced their concerns in COP27 for a new global climate finance target by 2024 (known as the **New Collective Quantified Goal on Climate Finance (NCQG)**). Developing countries argue that the magnitude of climate finance should be in trillions as the costs of addressing and adapting to climate change have grown. The differences between developed and developing nations has made Climate Finance as one of the most contentious issue of climate negotiations.

What is the meaning of Climate Finance?

According to UNFCCC – Climate finance refers to “**local, national or transnational** financing, drawn from **public, private and alternative sources** of financing, that seeks to **support mitigation and adaptation** actions that will **address climate change**”.

In simpler words, climate finance relates to the money which needs to be spent on the activities (like renewable energy generation) which will contribute to slowing down climate change and help the world to reach the target of limiting global warming to an increase of 1.5°C above pre-industrial levels.

Under **Article 3 of the UNFCCC**, developed countries committed to provide funding for the “agreed full incremental costs” of climate change in developing countries, meaning the additional costs of transforming fossil fuel-dependent economic growth strategies into **low-emission climate-resilient development pathways**.

The Convention, the Kyoto Protocol and other follow-up agreements and decisions by the Conference of the Parties (COP) have laid out some of the key principles relevant to the financial interaction between developed and developing. Other important principles, which can be instructive for a climate finance governance framework, stem from Parties’ existing human rights obligations or a larger body of environmental law outside of the UNFCCC (such as the Rio Declaration and follow-up outcomes).

The Copenhagen Accord commits “developed countries to a goal of mobilising jointly USD 100 billion a year by 2020 to address the needs of developing countries”. This financing is intended to be balanced between climate change mitigation and adaptation and will come from a wide variety of sources – including public and private, bilateral and multilateral, and alternative and innovative sources of finance

What is the need for Climate Finance?

Climate Change is a big threat. IPCC reports have pointed out the evidence of climate change and its catastrophic outcomes. The world is already experiencing rising average temperatures, shifts in the seasons and an increasing frequency of extreme weather events along with the slow onset events. Both **adaptation and mitigation measures (climate action)** are required to address the climate change and limit the rise to 1.5°C above pre-industrial levels.

Read More: [The IPCC Sixth Assessment Report \(Part 2\) – Explained, pointwise](#)

Mitigation deals with **reducing/curbing Greenhouse Gas (GHG) emissions** and is mostly identified with renewable energy and energy efficiency. Adaptation refers to **taking preemptive action to protect communities** from the consequences of climate change. Adaptation includes adjustments in ecological, social, or economic systems in response to actual or expected climatic stimuli and their effects or impacts.

Both mitigation and adaptation involve **significant costs** (e.g., shift to Electric Vehicles requires investments in battery/charging ecosystem). Developing countries lack the resources to undertake climate action.

Moreover, the climate change is due to **historic GHG emissions** contributed by the developed nations. Their societies enjoy better lifestyle today at the cost of historic emissions. Hence, they

have a responsibility to provide assistance to developing nations to undertake climate action while also allowing for development of their societies.

Impacts of Climate Change are not limited to particular region. In fact, developing countries are more vulnerable. Addressing climate change requires an **urgent, comprehensive and collective global response**. The longer climate action efforts are put off, the more difficult and expensive it would be to address climate change.

Read More: [Climate Reparation: Loss and Damage – Explained, pointwise](#)

The **New Climate Economy Report**, issued in 2018, found that bold climate action could yield a direct economic gain of US\$26 trillion through to 2030 compared with business-as-usual—a conservative estimate

What are the frameworks and conventions associated with Climate Finance?

United Nations Framework Convention on Climate Change (UNFCCC): Under the UNFCCC, developed countries agreed to support climate change activities in developing countries by providing financial support for action on climate change, above and beyond any financial assistance they already provide to these countries. A system of grants and loans has been set up through the Convention and is managed by the **Global Environment Facility**.

Kyoto Protocol: The Kyoto Protocol laid the groundwork for the **Adaptation fund** to “facilitate the development and deployment of technologies that can help increase resilience to the impacts of climate change”.

Paris Agreement: In 2015, the Parties to the UNFCCC reached an agreement to accelerate and intensify the actions and investments needed for a sustainable low carbon future. The agreement aims to make finance flows consistent with a low GHG emissions and climate-resilient pathway.

What are the current mechanisms for Climate Finance?

Several financial mechanisms to address climate change are currently in place, including the following:

Global Environment Facility (GEF) was established by UNFCCC to operate the financial mechanism under the Convention on an on-going basis, subject to review every four years to provide funds to developing countries.

Special Climate Change Fund (SCCF) was created in 2001 to complement other funding mechanisms to finance projects relating to: **(a)** capacity-building; **(b)** adaptation; **(c)** Technology Transfer; **(d)** Climate change mitigation and economic diversification for countries highly dependent on income from fossil

Least Developed Countries Fund (LDCF) is intended to support a special work programme to assist the LDCs.

Clean Development Mechanism (CDM) allows a developed country with an emission-limitation commitment under the Kyoto Protocol to implement an emission-reduction project in developing countries. Such projects can earn saleable **certified emission reduction (CER)** credits, each equivalent to one tonne of CO₂, which can be counted towards meeting Kyoto targets.

Adaptation Fund became operational with the first commitment period of the Kyoto Protocol in 2008 to finance practical adaptation projects and programmes in developing countries and support capacity-building activities.

Climate Investment Fund (CIF) was established in 2008 by several multilateral development banks. The CIF has balanced and equitable governance with **equal representation from developed and developing countries**. It includes: **(a) Clean Technology Fund:** Finances transfer of low carbon technologies; **(b) Strategic Climate Fund:** Targeted programs to pilot new approaches and improvements.

Community Development Carbon Fund provides carbon reduction financing to small scale projects in the poorer rural areas of the developing world. The Fund is a public/private initiative designed in cooperation with the **International Emissions Trading Association** and the UNFCCC. It became operational in March 2003.

The **World Bank** and the **International Finance Corporation** have also developed carbon funds with (co-)funding by States. A number of nationally-based financing instruments also exist, including: the Carbon Trust in United Kingdom, the Green Financing in the Netherlands, and the Energy for Rural Transformation in Uganda.

What are the challenges associated with Climate Finance?

Funding Biases: Despite the existence of various financing sources, there has been an inherent funding bias (more than 80%) in **favour of climate-change mitigation activities**. Adaptation measures remain under-funded. This can be attributed to: **(a) Results from mitigation investment are perceptible in the short run**, g. returns on investments in energy efficiency or in renewable energy can be perceived through the financial cost savings, as well as from the estimable break-even periods. The same is not true for adaptation projects. For instance, returns on investment in cyclone-resistant structures might not be perceptible if cyclones do not occur; **(b) Adaptation projects find less traction amongst funding agencies** because of the “public goods” nature of such projects. The private sector does not consider financing “public goods” as **viable investments**.

Missed Target: According to an expert report prepared at the request of the UN Secretary-General, the US\$ 100 billion target is not being met (available data for 2018 is US\$ 79 billion), even though climate finance is on an “upward” trajectory. Moreover, the annual US\$ 100 billion commitment, “is a floor and not a ceiling” for climate finance, according to the UN.

Gap in Finance, Low Target: The UN Environment Programme (UNEP) estimates that adaptation costs alone faced by developing countries will be in a range of US\$ 140-300 billion per year by 2030, and US\$ 280-500 billion annually by 2050. IPCC estimates that US\$ 1.6–3.8 trillion is required annually to avoid warming exceeding 1.5°C. In this context, the target of **US\$ 100 billion per year is very low**.

Pandemic and its economic effects: The Climate Policy Initiative (CPI), a non-profit research group based in San Francisco, California, warns that the pandemic and its economic effects have put an emphasis on spending in areas such as public health (developed nations spent trillions to deal with the COVID-19 pandemic), making the **mid-to-long-term prospects of climate finance uncertain**.

What should be done going ahead?

Climate finance has to be made **predictable and assured**. The developed countries should own up their responsibility and provide enhanced funding for adaptation.

In addition to enhanced support, processes and mechanisms must be developed to **ensure transparency in funding** (e.g., to check greenwashing) and **proper use of funds** (to prevent diversion). Proper auditing and reporting mechanisms can ensure transparency. National Budgets can also have separate line items to provide clarity on funding receipts and usage.

Climate Financing must be guided by **principle of equity**. The focus should be on providing assistance to the poor and the most vulnerable nations while ensuring development to raise living standards.

Gender aspects should be given due consideration, as women remain disproportionately affected by climate change. In this context, a framework has been suggested by a UK-based think tank.

Principles and criteria for climate change funding

Delivery phase	Principle	Criteria
Fund mobilisation	Transparency and accountability	Financial contributions by individual countries and international organisations and agencies, as well as the composition, quality and sources of these contributions, are disclosed publicly and in a timely manner
	The polluter pays	Financial contributions are relative to the quantity of historic and current emissions produced
	Respective capability	Financial contributions are correlated with (existing) national wealth and the right to (future) sustainable development and universally accepted minimum living standards for citizens
	Additionality	Funds provided are more than existing national ODA commitments and are not counted towards fulfilment of existing national ODA commitments
	Adequacy and precaution	Amount of funding is sufficient to deal with the task of maintaining global temperature rise well below 2°C and pursuing effort to limit temperature increase to 1.5°C
	Predictability	Funding is known and secure over a multi-year, medium-term funding cycle
Fund administration and governance	Transparency and accountability	Availability of publicly available comprehensive, accurate and timely information on a mechanism's funding structure, its financial data, the structure of its board and contact information for its board members, a description of its decision-making process, project preparation documents, the actual funding decisions and disbursements made, the implementation results achieved, and the existence of a redress mechanism or process
	Equitable representation	Representation of a diverse group of stakeholders on the board of a fund or funding mechanism in addition to contributing and recipient countries; countries' board seats are not dependent on financial contributions
Fund disbursement and implementation	Transparency and accountability	Disclosure of funding decisions according to publicly disclosed funding criteria and guidelines and the disbursements made; duty to monitor and evaluate implementation of funding; existence of a redress mechanism or process and the application of a comprehensive set of integrity policies; strengthened oversight by national legislatures
	Subsidiarity and national/local ownership	Funding decisions to be made at the lowest possible and appropriate political and institutional level; national and country ownership to be defined beyond a narrow government-centric focus to include sub-national and local levels
	Precaution and timeliness	Absence of scientific certainty or relevant data should not delay swift disbursement of funding when urgent action is required
	Appropriateness	The financing instruments used should not impose an additional burden or injustice on the recipient country
	Do no harm	Climate finance investment decisions should not imperil long-term sustainable development objectives of a country, cause maladaptation, invest at cross-purposes or violate basic human rights
	Direct access and vulnerability focus	Financing, technology and capacity-building to be made available to the most vulnerable countries internationally and population groups within countries as directly as possible (eliminating multilateral intermediary agencies where not needed and strengthening national, sub-national and local institutional capacity)
	Gender equality	Funding decisions and disbursement take into account the gender-differentiated capacities and needs of all gender groups through gender-mainstreaming and a focus on empowerment of women and often marginalised LGBTQ individuals

Source: ODI.org. *Climate Finance should be based on principles of transparency, accountability, adequacy, equitable representation and gender equality at each stage (mobilization, governance, allocation and disbursement, implementation).*

Conclusion

Climate Finance so far has remained an unfulfilled promise. As Al Gore emphasised, it is time to realize that the window to act to address climate change is getting shortened and developed countries are “not doing enough”. Climate Finance is the most potent tool to mitigate and adapt to effects of climate change. The faster the consensus on climate finance is reached, the better. In this context, all levers, public and private should be mobilized to meet the enhanced financing target.

Syllabus: GS III, Conservation, Environment pollution and degradation

Source: [The Hindu](#), [UNFCCC](#), [UN](#), [ORF](#), [ODI.org](#)

India's Strategy for Net Zero – Explained, pointwise

Introduction

India had announced the target to achieve Net Zero by 2070 at the COP26 (in 2021) at Glasgow. At the COP27 in Egypt, the Government has released its **Long-Term Low-Carbon Development Strategy (LT-LEDS)**. All 195 signatory countries to the UN Climate Agreement are supposed to submit their long-term strategy document by 2022, only 57 countries have done so far. Under the 2015 Paris Agreement, countries have to prepare and submit two kinds of climate action plans — one for the short term, and another for long-term. The short-term climate action plans are called **Nationally Determined Contributions (NDCs)**. They have to be submitted every 5 years, with specific actions being taken over 5- or 10-year periods. At present, countries have submitted the NDCs for the actions they are taking till 2030. Apart from NDCs, the Paris Agreement also requires countries to submit their long-term strategies to reduce emissions. Countries don't have to report progress on their long-term climate plans as the case with NDCs.

What is the meaning of Net Zero?

Net zero refers to a state in which the greenhouse gases going into the atmosphere are balanced by **removal out of the atmosphere**. It means that whatever carbon emissions have been added to the atmosphere through various processes are removed, thus **stabilizing the amount of greenhouse gases in the atmosphere**. This will limit the global warming, and hence crucial to limit climate change.

The Paris Agreement underlines the need for net zero. It requires Nations to 'achieve a balance between anthropogenic emissions by sources and removals by sinks of greenhouse gases in the second half of this century'. Net Zero is necessary to achieve as the carbon budget

The 'net' in net zero is important because it will be very difficult to reduce all emissions to zero e.g., it is hard to reduce emissions to zero in **hard-to-abate sectors** like aviation or agriculture. As well as deep and widespread cuts in emissions, there is a need to **scale up removals**.

In order for net zero to be effective, **it must be permanent**. Permanence means that removed **greenhouse gas does not return into the atmosphere over time**, for example through the destruction of forests or improper carbon storage.

Net Zero is closely linked with Carbon Budget. As the carbon budget for a 1.5°C or 2.0°C rise in global temperature is getting exhausted, the imperative to achieve Net Zero becomes more urgent.

What is the Carbon Budget?

The definition of the Carbon Budget and its significance.

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

Likelihood of limiting global warming to temperature limit	Special Report 15 Budget (2018) (Gigatonnes CO2)	AR 6 Budget (2020) (Gigatonnes CO2)
1.5°C – 50%	580	500
1.5°C – 67%	420	400
2°C – 50%	1,500	1,350
2°C – 67%	1,170	1,150

Source: IPCC

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Read More: [Achieving Net Zero by 2070 and the Associated Challenges – Explained, pointwise](#)

What is India' approach to low carbon development?

India's strategy for Net Zero is based on the following four key considerations that underpin its long-term low-carbon development strategy:

India's Low Contribution to Global Warming

The Sixth Assessment Report (AR6) of the Intergovernmental Panel on Climate Change (IPCC) [2022] has noted that the contribution of entire Southern Asia is only about 4% of cumulative net anthropogenic emissions between 1850 and 2019. Thee region includes almost 24% of the global population. North America and Europe together have contributed almost 10 times (~40%) to global cumulative emissions, though they have only ~13% of the global population. India's per capita annual emissions are about a third of the global average. From a global **carbon equity perspective**, India is justified in **seeking that developed countries undertake early net-zero, well before 2050**, by investing heavily in negative emissions, and **providing adequate climate finance, technology transfer and capacity building support**.

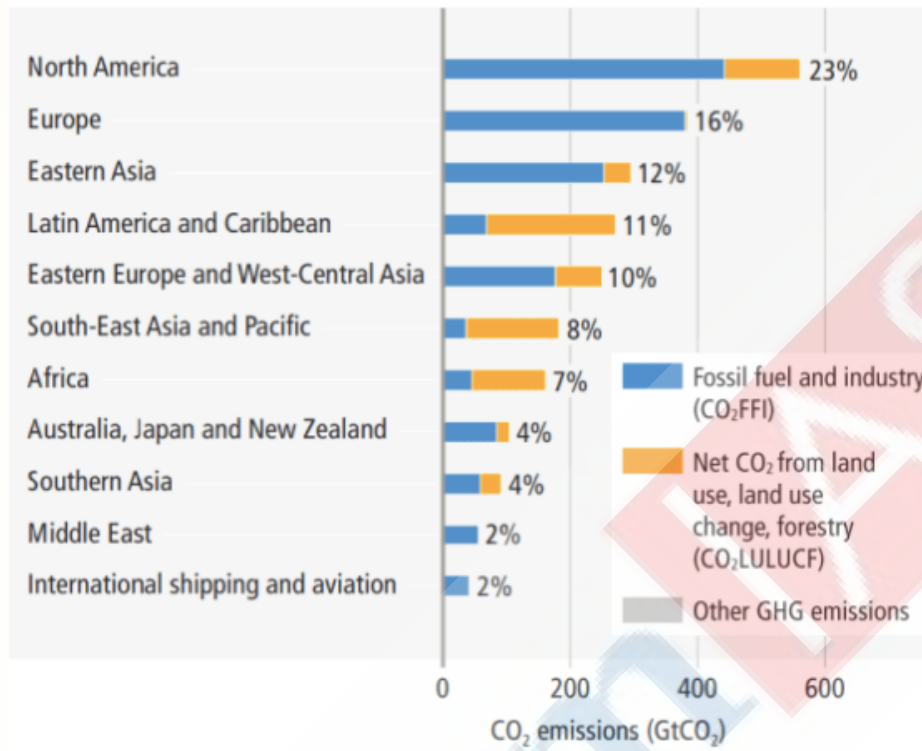
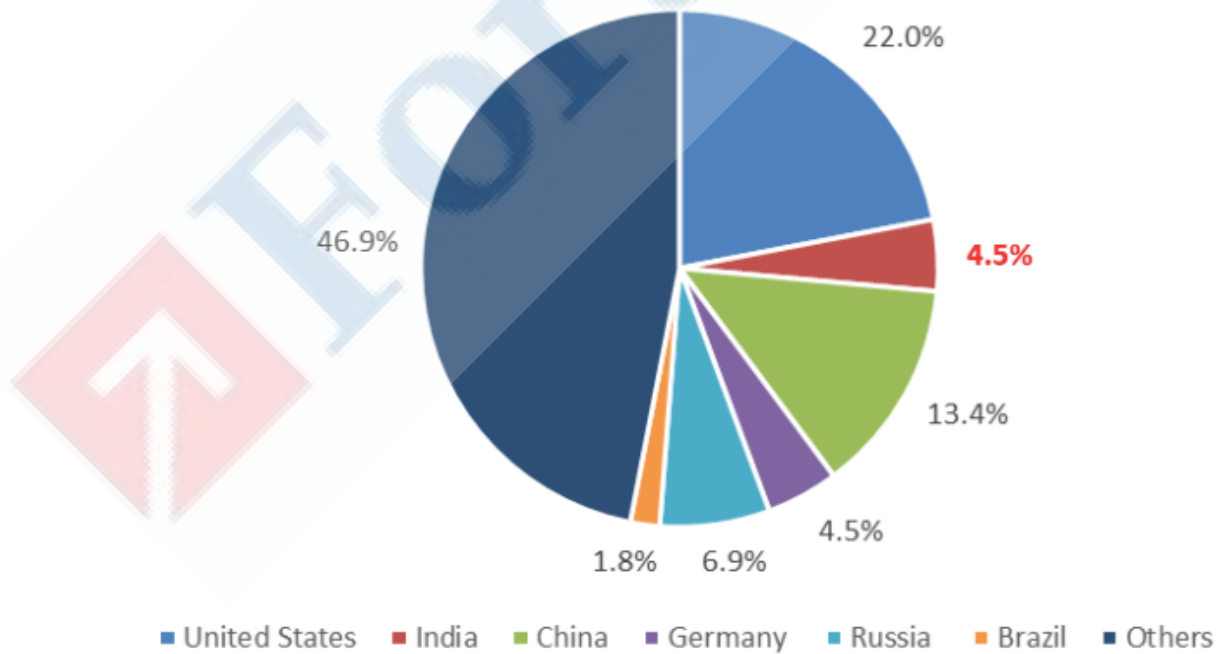


Figure ES.1 Historical cumulative net anthropogenic CO₂ emissions per region (1850–2019)

Source: IPCC AR6 2022 Working Group III, Summary for Policymakers, Figure SPM.2



Source: UNFCCC

India's Energy Needs for Development

Energy is essential to **erasing India's development deficits** and meeting its developmental needs. India's annual primary energy consumption per capita in 2019 was 28.7 gigajoules (GJ), considerably lower than both developed and developing country peers. Energy is needed for social development, to support India's demographic transition and consequent job creation needs, its agrarian and urban transition, and infrastructure development. India is actively pursuing energy efficiency as one of the key means of promoting low-carbon development. **India's efforts to decouple growth from emissions is in contrast to the developed countries, as India already has very low baseline of emissions.**

India's Commitment to Low-Carbon Strategies According to National Circumstances

India's mitigation efforts are driven by broader development choices. India seeks to identify and explore opportunities to shift to low-carbon development pathways, while **ensuring adequate access to household energy, energy security, and energy for the development of all sectors of the economy.**

The social and transaction costs of making a low-carbon transition are considerable. India will pursue low-carbon growth and development strategies in accordance with national circumstances and at a pace and scale that is nationally determined, **without compromising development futures.** Consequently, the need for climate finance for India's low-carbon transition is considerable.

Equity and the need for sustainable development will guide India's national objectives in the rational utilization of fossil fuel resources, with **due regard to India's energy security.** India's per capita fossil fuel consumption is much below the level of developed countries.

India needs to build Climate Resilience

India has a diverse geography that encompasses a wide range of ecosystems, from mountains to deserts, from inland to coastal areas, and from plains to jungles, and is vulnerable to impacts of climate change. Adaptation measures and building resilience to potential climate impacts are necessary to maintain India's development gains and human development outcomes and sustain its development.

What is India's Long Term Strategy for Net Zero?

India's LT-LEDS rests on seven key transitions to low-carbon development pathways. The following are the components of India's long-term strategy for Net Zero, which will serve as a roadmap for the country's actions during the next half-century:

Sectoral Transformations

India's strategy for Net Zero has prioritised 6 strategic sectors — electricity, transportation, urban design, industry, carbon dioxide removal and forests. Of these, electricity and industry sectors together account for over 75% of India's CO₂ emissions, while rapid changes are happening in the transport and urban systems.

Electricity: More renewable power, demand side reductions and a just transition for phase down of coal will be priorities in the electricity sector.

Transportation: India will look to transition to cleaner fuels, increase energy efficiency, and aggressive electrification.

Urban Design: The urban transition will focus on material efficiency of buildings and sustainable urbanization. Adaptation measures will be mainstreamed in urban planning.

Industrial Sector: The industrial sector will aim to improve energy efficiency, electrification, material efficiency and decarbonisation of **hard-to-abate sectors.** Promotion of energy efficient/low carbon technologies, digitization of processes, and creation of trading schemes and

other market-based enablers to achieve these goals will be pursued. **Green Hydrogen technology** and infrastructure will be promoted.

Read More: [Green Hydrogen Policy – Explained, pointwise](#)

Carbon Removal: There is a lot of scepticism and uncertainty about carbon dioxide removal (CDR). The emphasis is on R&D and building human and infrastructure capacity to evolve technologies that address issues related to high capital costs, safety, logistics and high power consumption. India **requires considerable climate finance and technology transfer** in this dimension.

Forests: India has a strong forest policy and will continue to protect its forest and expand tree cover to act as a carbon sink. Forests are also covered under India's NDC target to create an additional carbon sink of 2.5 to 3 billion tonnes of CO₂ equivalent by 2030.

Read More: [Managing Climate Change: A Strategy for India – Explained, pointwise](#)

Finance and Investments

According to a Council on Energy, Environment and Water assessment, India will need \$10 trillion to achieve the 2070 net-zero target. The LTS has moved beyond this high-level number and done a comprehensive assessment of the finance issue.

The plan has gauged the country's financial requirement, potential sources, the importance of mainstreaming of climate finance and international climate finance, and multilateral arrangements for climate finance. At the same time, India must continue to push developed countries to pay the billions of dollars they promised.

Read More: [Climate Finance: Meaning, Need and Challenges – Explained, pointwise](#)

Invest in Research and Innovation

India's Strategy for Net Zero considers research and innovation in new technologies to be essential to meeting the challenge of climate action, including both adaptation and mitigation (both globally or nationally). It identifies multiple technologies in the energy and industry sectors that need to be explored and scaled up. It only focuses on technology related innovations. Innovations on business models are equally important to push low-carbon technologies.

Adaptation and Resilience

Adapting to climate change will require: **(a)** An understanding of risks and vulnerabilities; **(b)** Economic and infrastructural development; **(c)** Strengthened individual resilience through enhancing livelihoods and incomes; **(d)** New governance capacities and improved coordination; **(e)** Raising resources for adaptation including in the form of adaptation finance; **(f)** Addressing loss and damage; **(g)** Ensuring equitable and inclusive strategies. India's adaptation actions attempt to achieve all of these goals.

Changes to Lifestyle for the Environment (LiFE)

LiFE is India's call for citizens, communities, industry leaders, and policymakers of the world to adopt a lifestyle for the environment. The LTS nudges people to make simple yet effective sustainable choices, industries and markets to scale these, and government policies to support them. LiFE elevates the importance of individual contribution to the larger climate goal, giving it as much importance as industry and policy level actions, an aspect largely missing from the climate discourse till now.

Lifestyle Changes

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

NEED

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

BEHAVIOURAL CHANGES

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

POLICY SUPPORT

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

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International Cooperation

India's approach to international cooperation is founded on the principles and commitments of the UNFCCC that **climate action should be on the basis of equity** and in accordance with **common but differentiated responsibilities and respective capabilities**, as per national circumstances. **India has developed several forward-looking and participatory global initiatives**, partnerships, and coalitions to combat climate change and foster greater collaboration like **International Solar Alliance (ISA)**, **India-UN Development Partnership Fund**, **Leadership Group on Industry Transition (LeadIT)** etc.

India's stated climate goals can be fully realized only if **financial assistance**, **low-carbon technology transfer** and **capacity-building** needs are met under the UNFCCC and its Paris Agreement. A collaborative international mechanism needs to ensure that barriers, such as intellectual property rights, are lowered to facilitate technology transfer. India emphasizes that international cooperation is necessary to low carbon transition.

What are the shortcomings of India's Strategy for Net Zero?

While environment and climate experts have lauded India's strategy, they point out certain shortcomings.

First, Carbon pricing through the emission-trading scheme could have been a key part of the LTS document. The Union Government has already said that a carbon market will be set up in India, and the Lok Sabha has passed the plan. This will be a big part of India's strategy, but the LTS is keeping quiet about it.

Read More: [Carbon Markets: Benefits and Challenges – Explained, pointwise](#)

Second, India's LTS strategy should include a way to **measure and report** how well it's doing at reaching its intermediate goals and undertake steps for course correction if needed. The Paris Climate Agreement does not require countries to report progress on its long-term efforts. However, India could have gone a step further to undertake periodic reviews and set an example before developed countries.

Third, India's **long-term plan does not mention agriculture**, which is the main source of methane emissions. Methane is the second most common greenhouse gas in the atmosphere,

after carbon dioxide. It has gotten a lot of attention in the past few years. This is because methane is a much bigger threat to global warming than carbon dioxide. India must make effort to reduce emissions from agriculture sector as well.

Fourth, at present just half of the 50+ long-term strategies submitted by countries have full or partial legal backing. Going forward, India might also like to **create a legal or institutional framework** to pursue policies based on its long-term goal.

Conclusion

India's Strategy for Net Zero shows India's commitment to address climate change while meeting its development needs. India's has already performed commendably in its domestic climate action. It is time the developed nations follow India's lead and fulfil their promises for climate finance and green technology transfer. This will facilitate a faster transition of global economy to low carbon pathway and limit the catastrophic impacts of climate change.

Syllabus: GS III, Conservation, Environment pollution and degradation.

Source: [Indian Express](#), [Indian Express](#), [The Hindu](#), [Mint](#), [UNFCCC](#)

Progress on the SDGs: Gender Snapshot 2022 – Explained, pointwise

Introduction

The Progress on SDGs: Gender Snapshot 2022 has been released by the **UN Women** and the **UN Department of Economic and Social Affairs** (UN DESA). The Report presents the latest evidence on gender equality across all the 17 Sustainable Development Goals (SDGs). Highlighting the poor progress, the Report has called out the long road ahead to achieve gender equality. The Report further notes that at the current pace of progress, it could take close to **300 years to reach full gender equality**. Global problems like the COVID-19 pandemic and its aftermath, violent conflict, climate change, and the backlash against women's sexual and reproductive health and rights are making gender gaps even worse. It emphasizes the interlinkages among the goals, the pivotal force gender equality plays in driving progress across the SDGs, and women and girls' central role in leading the way forward.

Read More: [Progress on the Sustainable Development Goals – Explained, pointwise](#)

What are the findings of the SGD Gender Snapshot Report?

SDG 1 – No Poverty: Extreme poverty is projected to deepen for women and girls globally. COVID-19 has derailed the progress and the **share of people living on less than US\$ 1.90 a day expected to rise to around 9% in 2022** (8.6% in 2018).

By the end of 2022, around 383 million women and girls will live in extreme poverty compared to 368 million men. In 2022, a projected 938 million women and girls live on less than US\$ 3.20 a day and 1.7 billion on less than US\$ 5.50 a day.

SDG 2 – Zero Hunger: Conflict, Climate and COVID-19 have converged, posing a **triple threat to food security**. **Economic shocks** from COVID-19 and **extreme climate events** (floods, droughts), have undercut food security in the world. With less access to land, education, information and financial resources, women are most affected by such catastrophes.

Moderate or severe food insecurity among adult women rose during the pandemic rose to 31.9% in 2021 (27.5% in 2019). Among men, it stood at 27.6%. The **Gender Gap has increased to 4.3 percentage points** (1.8 in 2019). Women in food-insecure households face a **higher risk of anaemia**. In 2019, 571 million women of reproductive age (15-49) were anaemic, nearly one in three.

SDG 3 – Good Health and Well-Being: Devastated health systems have left poorer women without care and in worse physical and mental health. The COVID-19 pandemic has disrupted

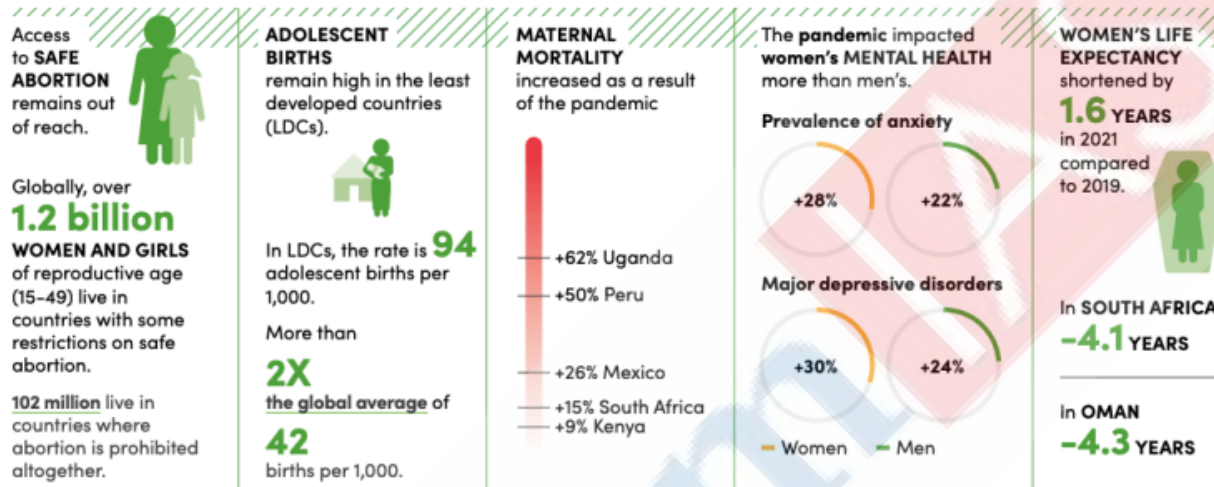
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essential health services and medical supply chains, and strained financial and human resources. It has drastically impacted women's access to sexual and reproductive health.

Legal restrictions, including the criminalisation of abortion, continue to compound the challenges women face in accessing safe sexual and reproductive health care. Today, over 1.2 billion women and girls of reproductive age (15-49) live in countries and areas with some restriction on access to safe abortion.

Striking shortfalls remain in sexual and reproductive health; the pandemic worsened women's chances for a healthy life



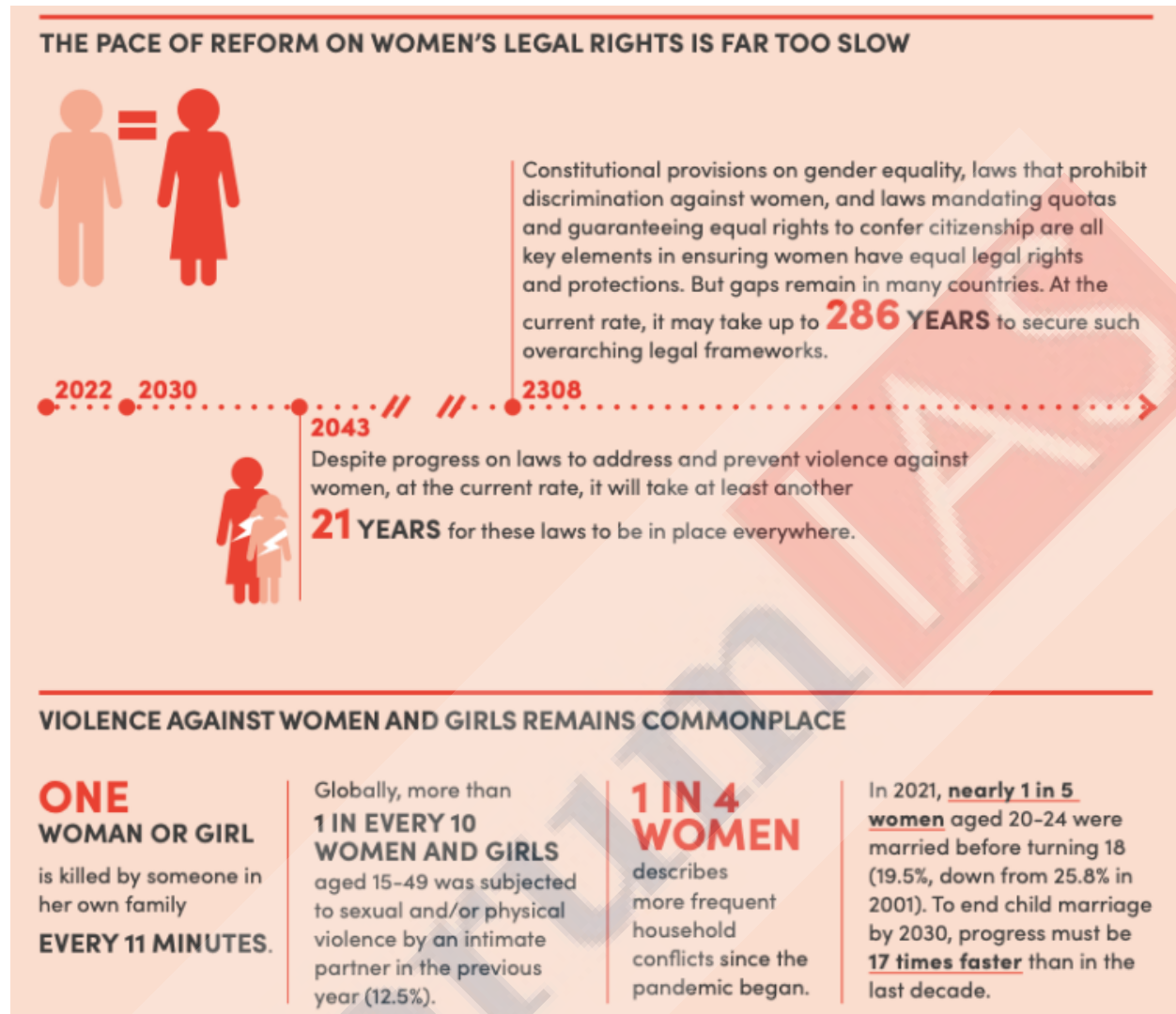
Source: UN Women, Gender Snapshot Report 2022

SDG 4 – Quality Education: For girls, **pregnancy, gender-based violence** and **insecurity** compound learning **losses due to COVID-19**. COVID-19 illnesses and deaths among adult caregivers have resulted in lower educational outcomes; globally, over 5 million children had lost a parent or primary caregiver to COVID-19 as of October 2021.

Each additional year of schooling can **boost a girl's earnings as an adult by up to 20%** with further impacts on poverty reduction, better maternal health, lower child mortality, greater HIV prevention and reduced violence against women.

SDG 5 – Gender Equality: The latest available SDG 5 data show that the **world is not on track to achieve gender equality by 2030**. COVID-19 and the backlash against women's sexual and reproductive health and rights are further diminishing the outlook for gender equality. Violence against women remains high, global health, climate and humanitarian crises have further increased risks of violence, especially for the most vulnerable women and girls, and women feel more unsafe than they did before the pandemic.

In July 2022, women held only 26.4% of Parliamentary Seats globally; in 23 countries, representation was below 10%. At the current pace of progress, **parity will not be achieved until 2062**. In 2020, women held less than 1 in every 3 managerial positions (28.3%). Women are less likely than men to own a mobile phone in 52 of 80 countries.



Source: UN Women, Gender Snapshot Report 2022

SDG 6 – Clean Water and Sanitation: Mismanagement, pollution and overconsumption have depleted water supplies around the world, elevating water stress to historic levels. More than 733 million people live in a context of high and critical water stress, where demand for safe, usable water outstrips supply.

Unaffordable, inaccessible water has specific implications for women's health due to increased needs for water and hygiene during menstruation, pregnancy and postpartum recovery. Without safe water, sanitation and hygiene, more than 800,000 women lose their lives every year. Increased disease is apparent in the 44 million pregnant women with sanitation-related hookworm, which causes maternal anaemia and pre-term births. For young girls, water stress can have significant impacts on education.

SDG 7 – Affordable and Clean Energy: In 2020, 733 million people globally lacked access to electricity. An estimated 2.4 billion people had to cook with inefficient and polluting fuels. Clean cooking technologies reduce fuelwood consumption, fuel collection and cooking times, chronic obstructive pulmonary disease and carbon monoxide levels.

Electrification can reduce women's time spent on unpaid domestic work and increase women's decision-making ability, financial autonomy, reproductive freedom and social participation, often due to increased labour market participation.

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SDG 8 – Decent Work and Economic Growth: Global employment will likely approach pre-pandemic levels in 2022, but the labour market recovery is sluggish and unequal. Women are disproportionately affected, accounting for only 21% of predicted employment gains over 2019-2022 despite being 39.4% of total employment in 2019.

The global gender disparity in hours worked has grown, threatening to **widen gender pay inequalities**. **Women's overrepresentation** in sectors severely impacted by the pandemic and in **informal employment** explains their greater vulnerability. Disparities are exacerbated by the **lack of equal access to maternity benefits, childcare, and parental leave**, as well as the unequal distribution of unpaid care work.

Read More: [Female Labour Force in India – Trends and Challenges – Explained, pointwise](#)

SDG 9 – Industry Innovation and Infrastructure: Discriminatory norms and violence sideline women from fully entering the digital world. Globally, women hold only 2 in every 10 science, engineering and information and communication technology jobs. In the last 10 years, **excluding women from the digital world has cut US\$ 1 trillion from the GDP** of low- and middle-income countries. If nothing is done, this loss will reach US\$ 1.5 trillion by 2025.

A study of 51 countries revealed that 38% of women had personally experienced online violence. Only 1 in 4 reported it to the relevant authorities and **nearly 9 in 10 opted to limit their online activity**, thereby **increasing the gender digital divide**. Online and ICT-facilitated violence against women increased during the pandemic as women spent more time online.

SDG 10 – Reduced Inequalities: The global population of forcibly displaced women and girls has reached record levels. Women and girls on average account for more than half of all internally displaced people (IDPs) globally. Displacement exposes women to **greater risks of violence, trafficking and sexual abuse**. By the end of 2021, ~44 million women and girls were forcibly displaced, encompassing refugees, asylum seekers, and persons displaced by conflict and violence.

For women, displacement often results in lost property, assets and livelihoods, and worsening health and access to health care.

SDG 11 – Sustainable Cities and Communities: In 2020, the majority of the world's women and girls lived in urban areas (56.2%), a proportion expected to increase to 60.4% by 2030 and 68.4% by 2050. Urban areas offer abundant resources and opportunities but are also **sites of huge inequality**.

For poor women and girls, including in slum and slum-like settings, adequate housing, water and sanitation are scarce, access to decent health care is deficient, transportation is patchy and decent job opportunities are few and far between.

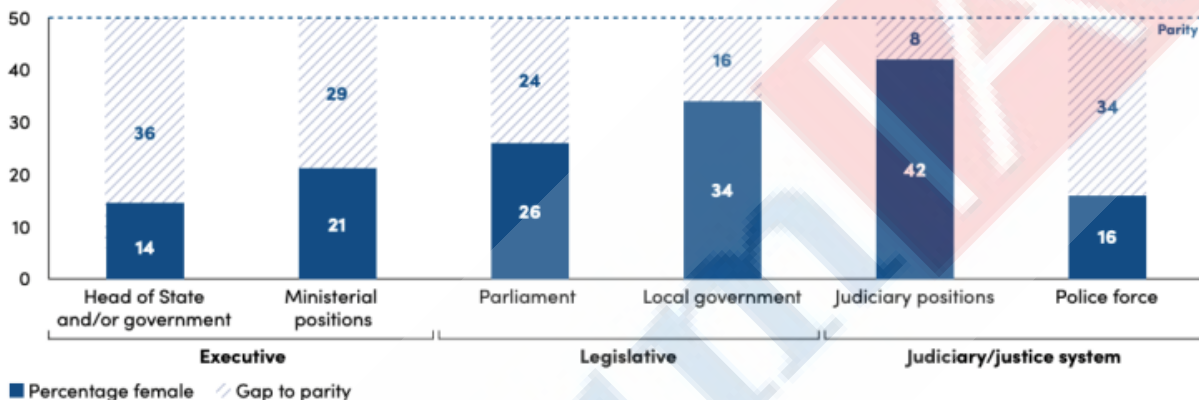
During the pandemic, **urban spaces became even more hostile for women** and In a survey of 55 countries, 18% of women said sexual harassment was quite frequent or very frequent in their community, (15% pre-pandemic). Half of women feel unsafe walking alone at night in urban areas, with evidence that violence and harassment escalated during the pandemic.

SDG 12, 13, 14, 15 – Responsible Consumption, Climate Action, Life Below Water, Life on Land: Food security, livelihoods and the well-being of women and girls depend on climate action and a healthy planet. Women, especially those from poor and marginalised communities, are **disproportionately affected by climate change** and the destruction of the Earth's natural resources, including its oceans and forests. Their vulnerability stems from their **limited access** to and control of land and environmental goods, **exclusion from decision-making** and the higher likelihood of living in poverty.

Women play **transformative roles** in climate change adaptation and mitigation despite many obstacles. Women and their communities must be engaged in solutions that affect their environment, their livelihoods and their way of life.

SDG 16 – Peace, Justice and Strong Institutions: To protect human rights, uphold the rule of law and provide redress to victims of abuse and injustice, all public institutions must represent and respond to women and girls. Globally, women make up 46% of the public sector workforce but remain **chronically underrepresented in leadership**. As of 2017, they held 42% of judicial positions but a mere 16% of police jobs. Women’s representation in public administration in fragile and conflict-affected countries is half the global average. As of July 2022, only 27 countries (14%) have a woman head of State and/or government; in 2021, women held 9% of ministerial positions.

Participation of women in selected public sector leadership positions and occupations (percentage)



Source: Inter-Parliamentary Union and UN Women, *Women in Politics 2021, 2021*; United Nations Statistics Division, *The Sustainable Development Goals Report 2022, Statistical Annex, 2022*; UNODC, 2018.

Note: Police force data are based on a simple average of 73 countries. Coverage for sub-Saharan Africa, Central and Southern Asia and Eastern and South-Eastern Asia is limited.

Source: UN Women, Gender Snapshot Report 2022

SDG 17 – Partnerships For The Goals: Inadequate and unpredictable funding for gender equality priorities mars prospects for real change. In 2020, the expected loss in earnings for women around the world owing to the epidemic was US\$ 800 billion. **Funding remains erratic and insufficient**, given the scale of challenges women and girls face.

Official development aid (ODA) was US\$ 178.9 billion in grants-equivalent in 2021. Allocations to programmes where **gender equality is the main objective constituted only 4.6% of bilateral allocable ODA** in 2020. Lack of funding and funding fluctuations impact strategic planning and reduce the likelihood of achieving lasting, transformative change for women and girls.

What should be done going ahead?

First, Governments across the world, must have time-bound action plans to ensure that the goals are achieved.

Second, the Gender Snapshot Report notes that **stronger international cooperation**, especially to **finance gender equality**, is imperative to combat multiple, interlinked global crises that put lives and well-being of women at risk.

Third, Long-term structural hurdles to gender equality, such as discriminatory practises, need to be addressed and eliminated in order to make progress toward gender parity.

Conclusion

The Gender Snapshot report has highlighted the slow progress towards achieving the goal of gender parity. Global challenges, such as the COVID-19 pandemic and its aftermath, violent

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conflict and climate change, are further exacerbating gender disparities. Global cooperation and investments in the gender equality agenda, including through increased national funding, are essential to right the course and place SDG 5 back on track.

Syllabus: GS I, Social Empowerment

Source: [The Times of India](#), [UN Women](#)

Permanent Commission for Women in the Armed Forces – Explained, pointwise

Introduction

The Supreme Court has directed the Union Government and the Indian Air Force to consider granting Permanent Commission (PC) to 32 retired women Short Service Commission (SSC) officers. The 3-Judge Bench of the Supreme Court said that the women IAF officers, if found eligible by the IAF for grant of Permanent Commission, will also be entitled to grant of one-time pensionary benefit. There has been a long history of struggle for ensuring Permanent Commission for Women in the Armed Forces. There has been much progress in the recent times, with women progressively getting more responsibilities in the armed forces. Yet, women officers continue to face multiple challenges and equality in true sense has still not been achieved. Further reforms in the implementation are necessary for overcoming these challenges.

What is the meaning of Permanent Commission?

A Permanent Commission (PC) means **continuing a career in the armed force until retirement**. Personnel selected in the Armed Forces through Permanent Commission have the option of serving in the Force till the age of retirement. For a long time, the option of Permanent Commission was offered only to the male officers. Permanent Commission for Women was not allowed. **Female Officers were offered only the Short Service Commission (SSC) having tenure of 10+4 years.**

Under the SSC system, the officers are enrolled for 10 years then they can continue their service for 4 years. After this completion of 10+4 years, the women officers were compulsorily made to opt out, while male officers could continue and take up permanent commission or they can also opt-out. Permanent Commission is granted to SSC officers subject to **service requirement and availability of vacancies.**

This pattern has now changed and has become liberal towards female officers. Now, Women officers also have the option of permanent commission, on par with the male officers. The Supreme Court has played a major role in this colossal change that leads society one step closer to equality.

How has the Permanent Commission for Women in the Armed Forces evolved over time?

The **Indian Military Nursing Services** originated in 1888 and women were given an opportunity to serve in the Armed Forces. The nurses of the Indian Army first served with distinction in World War I. Formation of **Women's Auxiliary Corps** allowed them to serve in primarily **non-combatant roles** like communications, accounting, administration etc. The opportunities for women officers were little.

After Independence, the participation of women in the Armed Forces remained limited. The Acts governing the Armed Forces restricted the role of women e.g., **Section 12 of the Army Act, 1950; Section 12 of the Air Force Act, 1950; and Section 9(2) of the Navy Act, 1957** explicitly **make women ineligible to participate in the respective services** except in such bodies/departments/corps as notified by the Union Government.

In 1991-92, the Government issued notifications regarding the role of women in the Armed Forces. The roles were limited e.g., women were allowed to serve only in **Logistics, Law** and

Education roles within the **Indian Navy**. Similarly the roles notified in the Indian Army were support roles (rather than core) like the Army **Postal Service**, Army **Education Corps**, Army Ordinance Corps and Army **Service Corps** (Food Scientists and Catering Officers) etc.

Even in these limited roles, Women were limited only to the Short Service Commission (initially for 5 years only, later extended to 10+4 system). After completion of 14 years, women were asked to leave while eligible male officers were granted Permanent Commission.

The discriminatory provision led to numerous litigations.

In 2008, while litigations were sub judice, the Union Government granted a chance of obtaining a PC in the Armed Forces on a restricted basis. There were two major restrictions: **(a)** The policy was prospective (not retrospective) i.e., women will be offered Permanent Commission only after September 2008; **(b)** Permanent Commission will be offered only to **specific cadres and branches** (and not universal PC).

The Judiciary played a proactive role in ensuring permanent commission. The **Indian Air Force was first among the three services to grant PC to SSC women officers** post the Delhi High Court Judgment in **Jasmine Kaur vs. Union of India WP (C) 8492/2009** in favour of granting PC to women officers.

Similarly in the **Secretary, Ministry Of Defence vs Babita Puniya (2020)** case, the Supreme Court granted equal rights to women with respect to Permanent Commission. The SC held that all the women officers presently on SSC service are eligible to PCs. All the **choices of specialization shall be available to the women officers** at the time of opting for the grant in PCs, on the same terms as their male counterparts. All the women officers who are eligible and granted PCs through SSC **should be entitled to all consequential perks** including pension, promotion, and financial incentives.

The SC also noted that although **Article 33** of the Indian Constitution did **allow for restrictions on Fundamental Rights in the Armed Forces**, it is also clearly mentioned that it could be restricted only to the extent that it was necessary to ensure the proper discharge of duty and maintenance of discipline. Hence, denial of PC to women is violative of their fundamental rights guaranteed under Article 14.

What are the benefits of Permanent Commission for Women?

First, Permanent Commission is central to **removing structural gender discrimination** in the armed forces.

Second, it will provide **increased job security** and extended tenure for women officers. It will help **improve the economic opportunities** and improve social conditions and dignity of women. It will also ensure that women officers are not left unemployed after serving many years in the armed forces.

Third, Supreme Court Judgment will ensure that women officers also get **equal entitlements as men** and **boost their morale** to serve in the services. Traditionally, women officers received no pension as they were contractually mandated to retire within 14 years of service, while defence personnel are entitled to benefits after 20 years in service.

Fourth, Equality in opportunity and entitlements will ensure that **more women are attracted to serve** in the Armed Forces. It will **enlarge the talent pool** of officers available for the Armed Forces. As of 2020, women officers in the Indian army (excluding the medical corps) numbered just about 3% compared to 16% in the US, 15% in France and 10% in both Russia and the UK.

Fifth, In response to a question in Rajya Sabha in December 2021, the Minister of State for Defence said the Army has a shortage of 7,476 officers. Permanent Commission to women can help bridge the gap.

What are the challenges faced by Women in the Armed Forces?

Skewed Gender Ratio: Low number of women in the Armed Forces (3%) acts as deterrent for many aspiring women to join the forces.

Work-Life Balance: A career in armed forces is very challenging and demanding with odd work-locations and work hours. Women have dual responsibility of professional duties as well as **domestic care work**. The responsibility of childcare disproportionately falls on women. It is difficult to balance professional obligations with domestic responsibilities.

Limited Roles: The roles offered to women officers are still limited. Women are not still not allowed for combat roles in the Infantry/Mechanised Infantry/Armoured Corps/Artillery or in the Ships/Submarines. (*The Indian Navy has, in-principle, accepted the proposal, subject to gender-specific facilities being created*).

Gender Stereotypes: The Supreme Court in its Judgement in the *Babita Puniya* case had criticized the observation made by the Government in the affidavit submitted before the Court. The SC order castigated the Government for portraying women as **physiologically unfit for answering the “call beyond duty” of the Army**. The note had observed that “*isolation and hardships would eat into their resolve and that they would have to heed to the call of pregnancy, childbirth and family*“. The SC had criticized this patriarchal notion that domestic obligations rested only with women.

Discrimination: After the 2020 SC Judgment, the Army established additional conditions for female officers to be eligible for permanent commission. Most of them related to physical fitness, which many officers contended that the new criteria would inevitably keep women from gaining permanent tenures.

Biological limitations: Armed forces personnel point out certain biological limitations. According to studies carried out by the **Centre for Military Readiness in the United States**, female soldiers, on an average, are shorter and smaller than men, with **45-50% less upper body strength** and **25-30% less aerobic capacity**, which is **essential for endurance**. There is an argument that the **physical standards for women must be equivalent to the minimum/satisfactory standards for men** in supporting arms/services. For **fighting arms and Special Forces**, these should be at par with males to withstand the rigours of combat. Thus, on physical standards alone, the employment of women in armed forces gets restricted to specific roles.

What should be the approach going ahead?

A retired Army Officer (Lt. Gen. Rank) suggests a balanced approach going ahead.

Equality: Equal rights and opportunities imply equal physical fitness standards, which must be based on the role and not gender. There are no separate battlefields for women.

Accept Gender-specific Rights: The Forces will have to accept physiological and gender-specific rights like maternity and child care leave.

No Preference/Discrimination: The armed forces are **merit-driven organisations** and the women should compete on equal grounds to rise in ranks in a pyramidal set-up. There is no scope for reservations for promotion.

Frame a Pragmatic Policy: The forces needs to **shed their patriarchal attitude** and frame a pragmatic policy for **gradual induction of women in all ranks and disciplines. Necessary infrastructure must be created for women soldiers.**

Codify Rules and Regulations: The terms and conditions of service for women must be codified, keeping in view the organisational interests. Military law, rules and regulations to **address gender crimes** and related problems must be laid down. Only volunteer women officers/soldiers should be allowed to join fighting arms, subject to meeting the psychological and physical fitness

standards. This is necessary as in the US military, **gender-related offences** are by far the **most common type of discipline problem**.

Conclusion

Permanent Commission is not just a matter of welfare or right to equal entitlements like pension. It is the idea to **“give women an equal chance at nation-building”**. The Supreme Court’s Judgment in 2020 was only the first step in a long journey towards ensuring equal opportunity to women in the armed forces. The debate and legal battles, so far, have been based on gender parity and not on ethical evaluation of the performance of women. The Supreme Court judgments were more driven by Articles 14, 15 and 16 of the Constitution than by merit per se. Women aspirants and serving officers should also step up their resolve to meet the exacting physical, psychological and performance standards, and the conditions of service. Armed Forces should also reform their policies to select the best talent for the role irrespective of the gender.

Syllabus: GS I, Gender Empowerment; GS II, Welfare schemes for vulnerable sections of the population by the Centre and States and the performance of these schemes.

Source: [Indian Express](#), [Indian Express](#), [Indian Express](#), [The Hindu BusinessLine](#), [Mint](#), [PIB](#)

[Yojana November Summary] Blue Economy – Explained, pointwise

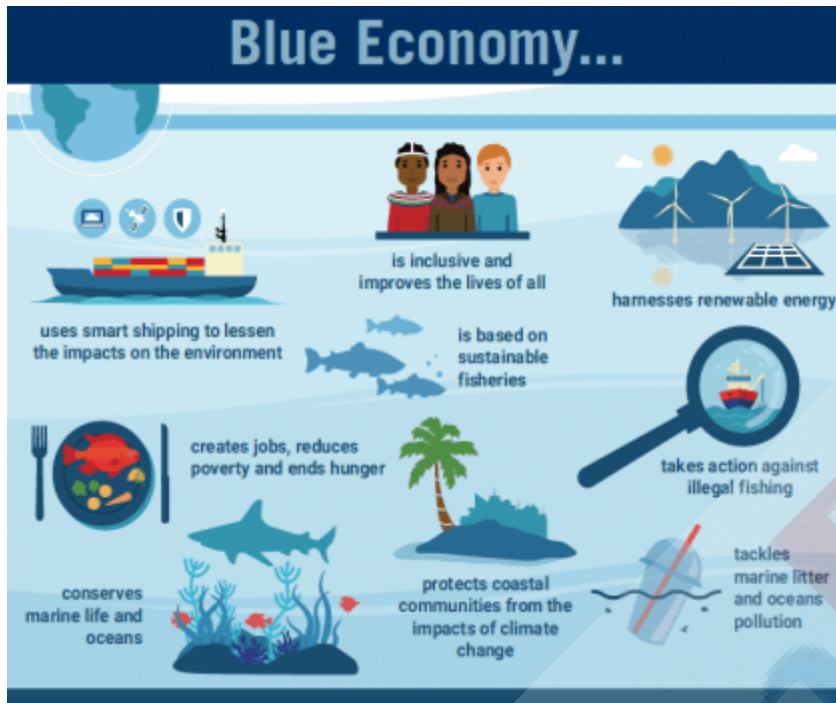
Introduction

The rapid population rise has put an immense pressure on the natural resources. Population growth has outpaced the regenerative capacity of the natural systems, more so for the land based ecosystems. Oceans are Earth’s most valuable natural resources. Oceans provide energy, food, and livelihood opportunities among others. Oceans are also used for transportation; both travel and shipping. At present, ~80% of world trade is seaborne. Indian Ocean is the world’s third largest ocean, covering an area more than 70 million sq km. Most littoral States along the Indian Ocean are developing countries, making the economic and sustainable development challenging. These countries are home to ~33% of world’s population that rely on marine resources. The marine resources acquire both economic and strategic dimensions in this context. With its geographic and geo-strategic position and critical dependence on the Indian Ocean, India has been leading the Blue Economy discourse at the highest level of the Government, with a greater focus on the Indian Ocean region.

Concept of Blue Economy

The Blue Economy encompasses a **wide range of economic activities** pertaining to the **sustainable development of resources** and assets in the oceans, related rivers, water bodies, and coastal regions in a manner that **ensures equity, inclusion, innovation**. Blue Economy is subtly distinguishable from the “Ocean Economy” in terms of nuance and emphasis. Blue Economy is a newer and more contemporary term, popular with Small Island Developing States (SIDS) as well as international organisations, media, experts, and governments in a growing number of countries. The Blue Economy is viewed as an integral element of Sustainable Development Goals.

According to the **World Bank**, the blue economy is the “*sustainable use of ocean resources for economic growth, improved livelihoods, and jobs while preserving the health of ocean ecosystem*“. The **Commonwealth of Nations** considers it “*an emerging concept which encourages better stewardship of our ocean or ‘blue’ resources*“. **Conservation International** adds that “*blue economy also includes economic benefits that may not be marketed, such as carbon storage, coastal protection, cultural values and biodiversity*“.



Source: UN

Focus on Blue Economy

First, Indian Ocean Rim Association (IORA) points out that Blue Economy would, “contribute to **food security, poverty alleviation**, the mitigation of and resilience to the impacts of **climate change**, enhanced **trade and investment**, enhanced **maritime connectivity**, enhanced diversification, **job creation**, and socio-economic growth”.

Second, From the business perspective, Blue Economy requires innovative and dynamic business models, **forming business connections between India and other relevant countries**, especially those located in the Indian Ocean region.

Third, A focus on Blue Economy will **enhance economic cooperation** with littoral States in India’s neighbourhood.

Fourth, As India becomes more developed, maritime security will obtain more strategic dimension.

Overview of India’s Blue Economy

Blue Economy accounts for roughly 4% of the GDP and is estimated to increase further in this decade. This sector has stood strong despite the challenges caused by the Covid-19 pandemic and has recorded exports worth US\$ 2 billion between April 2021-February 2022.

Fisheries and minerals are the two most viable components of the blue economy in India. The two mineral deposits of commercial significance to developers in the Indian Ocean are **polymetallic nodules** and **polymetallic huge sulphides**. Polymetallic nodules (size similar to golf or tennis ball) contain nickel, cobalt, iron, and manganese and grow over millions of years on the seafloor. They are often discovered at the depth of 4-5 kms. In 1987, India was granted exclusive rights to explore polymetallic nodules in the Central Indian Ocean Basin. It has explored four million square miles and has **established two mine locations since then**.

The coastal economy sustains over **4 million fishermen**. India is the **second largest fish producing nation** in the world and has a fleet of 250,000 fishing boats. India’s coastline extends to 7,500 kms. Nine Indian States have access to the coastline. The Government had established the **‘Fisheries and Aquaculture Infrastructure Development Fund’ (FIDF)** in 2018-19 with a

fund size of INR 7,522.48 crores to provide concessional credit to State/UT Governments and the private sector to fill significant gaps in the fisheries infrastructure. The Government of India also launched the **Pradhan Mantri Matsya Sampada Yojana** (PMMSY), in May 2020, with an investment of INR 20,050 crores (US\$ 5 billion) to bring about a Blue Revolution through sustainable and responsible development of the fisheries sector.

There are more than 200 ports, of which 12 are major ports that handled 541.76 million tones in FY 2021.

Shipbuilding and shipping are also important aspects of the blue economy. The modal share of coastal shipping has the potential to increase to 33% by 2035, up from roughly 6% at present. Most of the country's oil and gas are supplied by sea, making the Indian Ocean region critical to India's economic growth. This reliance is expected to increase dramatically in future.

The Indian Ocean's Blue Economy has become a **global economic corridor**. India has significant diplomatic interests in the Indo-Pacific, as well as international commitments in the region under the UNCLOS, such as Search and Rescue, seabed mining, and counter-piracy.

India has focused on the development of sectors viz. fisheries, shipping, ports, and maritime logistics, marine coastal tourism and leisure, conventional minerals exploration and production, and marine construction activities. Other emerging sectors are **renewable ocean energy** including offshore wind tidal and wave energy, offshore extraction of oil and gas in deep-sea, seabed mining for metals and minerals, marine aquaculture, marine biotechnology, ocean monitoring, control and surveillance, and education and research etc.

Maritime Security Strategy

India's maritime security strategy focuses on all aspects of the challenges including the ocean economy that are affecting the health and the future of oceans. Security issues have seen a transition, as maritime security has shifted from military and traditional issues to threats that are not military or traditional. Maritime Security, as sub-domain of Blue Economy has achieved significance: **(a)** To address environmental degradation, ocean trade security, migration, climate change, energy security, drug trafficking, and piracy; **(b)** The opening of new sea lanes and expansion in maritime trade highlight the importance of focusing on maritime security; **(c)** **Maritime security helps the growth of the Blue Economy** by protecting navigation routes, giving important oceanographic data to marine industries, and protecting rights over valuable marine resources and activities in claimed zones of maritime

Read More: [\[Yojana November Summary\] Paradigm of Coastal Security – Explained, pointwise](#)

Indian Coast Guard: An Enabler of Maritime Blue Economy

India has a 7517 km coastline, 1197 islands, and an Exclusive Economic Zone (EEZ) spanning 2.01 million sq km, which is expected to go up to almost 3 million sq km after the delimitation of the continental shelf.

India is strategically located between two important **choke points** namely the **Strait of Hormuz** and the **Strait of Malacca**, through which most of the trade in commercial shipping moves in the Indian Ocean.

The traffic of hazardous and noxious substances for industrial and energy purposes is constantly increasing. Many nations on the rim are facing domestic political turmoil and regional stability is therefore only transitory. Piracy and other transnational crimes including drugs and arms trafficking are rampant. Such crimes support militant activism and homemade insurgencies. Considering the future of the exploitation of ocean resources in the IOR, the **Indian Coast Guard will have a major role to play:** **(a)** Averting major pollution incidents; **(b)** Anti-poaching, and Search & Rescue; **(c)** As an essential actor in non-traditional security; **(d)** As a major maritime law enforcement agencies in the Indian Ocean Region.

The Indian Coast Guard has been carrying out duties such as quickly responding to oil spills, helping mariners in distress at sea, warning vessels during bad weather, offering assistance during scientific experiments and augmenting the national defence resources. These duties coupled with other challenges would be the focus area of the enablers of the Blue Economy.

Conclusion

As Blue Economy gains prominence, maritime transportation and information systems, growth of ports and shipping, mineral research and exploitation, emerging threats to the marine environment, and changing national security concerns will shape the course of the Nation. More than ever, India will call upon the Coast Guard to serve the national interests on the high seas, along the Nation's maritime borders and coasts. Mindful of these responsibilities, the Indian Coast Guard (ICG) has charted its course and embarked on an ambitious plan to renew assets and increase capabilities, by matching its high-performing people with modern equipment and technologies, the ICG will always remain ready to meet the challenges ahead.

Source: Yojana November 2022, [UN](#)

Countering Terror Financing – Explained, pointwise

Introduction

The Third Ministerial of 'No Money for Terror' (NMFT) on Counter-Terror Financing was held in New Delhi recently. Delegates from ~75 countries and international bodies attended the event. The event was focused on ways to combat global terror financing networks. Prior to this, India had also hosted a special meeting of the United Nation Security Council's (UNSC) Counter Terrorism Committee (UNSC CTC) in late October 2022. Terrorism is a global menace and India has been a victim of terrorist activities for long. With the advent of technology and rising sophistication and capabilities of terror organizations, the challenge of countering terrorism is becoming more formidable. Given that terror funding, activities and their impacts transcend national boundaries, global cooperation has become imperative to combat the problem. Despite several initiatives, there are many gaps in the current arrangements which reduce the effectiveness of the measures.

What is the meaning Terror Financing?

Terrorist financing involves the **solicitation, collection or provision of funds** with the **intention that they may be used to support terrorist acts or organizations**. Funds may stem from both legal and illicit sources. According to the **International Convention for the Suppression of the Financing of Terrorism**, a person commits the crime of financing of terrorism *“if that person by any means, directly or indirectly, unlawfully and willfully, provides or collects funds with the intention that they should be used or in the knowledge that they are to be used, in full or in part, in order to carry out”* an offense within the scope of the Convention.

The primary goal of individuals or entities involved in the financing of terrorism is to conceal both the financing and the nature of the financed activity.

Purpose of Terror Financing

- **Operations:** Terror organizations require the funds to carry out terrorist attacks including underlying operations. This includes undertaking surveillance, making fake documents, acquiring weapons and explosive devices like IEDs.
- **Propaganda and Recruitment:** Terrorist organisations require funding to successfully recruit members. This includes running social media accounts, publishing magazines and newspapers, and purchasing internet domain names and administer websites.
- **Training:** All terrorist organisations seek funds to enable training of operatives and sympathisers in a number of areas including, weapons training, bomb-making, clandestine communication and ideology.
- **Salaries and Member Compensation:** Funding is required for the salaries of their members, as well as for the families of jailed or deceased members. Providing financial security cements commitment to the organisation's goals and ideology.
- **Social Services:** Many terrorist groups use their financial resources to establish or subsidise social institutions that provide health, social, and educational services. This is done to build support within local populations and aid recruitment efforts.

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What are the major sources of Terror Financing?

Private Donations: Donations to terrorist organisations can come from a wide-variety of sources. Wealthy private donors can be an important source of income for some terrorist groups. FATF reports have also recognised the important role that sponsors play in sustaining some terrorist organisations.

Abuse and Misuse of Non-profit Organizations (NPOs): FATF study found that the abuse of NPOs, or the risk of unintentional misuse, manifests in five different ways: **(a)** Diversion of donations through affiliated individuals to terrorist organisations; **(b)** Exploitation of some NPO authorities for the sake of a terrorist organisation; **(c)** Abuse of programming/program delivery to support the terrorist organisation; **(d)** Support for recruitment into terrorist organisations; **(d)** Creation of “false representation and sham NPOs’ through misrepresentation/fraud.

Proceeds of Criminal Activity: Terrorist organisations engage in a variety of illegal activities to generate funds. For instance, terrorist organisations **commit identity theft** in order to raise finances through credit card fraud. In addition to insurance and loan fraud, **drug trafficking, extortion, kidnapping for ransom, smuggling of products** and **selling of antiques and cultural artefacts** and associated tax fraud have been identified as sources of funding for terrorist organisations.

Extorting Local and Diaspora Populations and Businesses: FATF reports have recognised that terrorist organisations extort local populations as a way to sustain their activities e.g., the Islamic State of Iraq and the Levant (ISIL) used to extort the income of all inhabitants in areas where it operated. It also extorted ‘taxes’ from movements of goods under its territory.

Self-funding: Several FATF reports have recognised that the amounts of money needed to fund small attacks can be raised by individual terrorists and their support networks using savings, access to credit or the proceeds of businesses under their control.

Legitimate Commercial Enterprise: Several law enforcement investigations and prosecutions have found a nexus wherein revenues from a commercial enterprise are routed to a support

terrorist organization. Evidence of terror funding has been found from wide range of enterprises from used-car dealerships to restaurant franchisees.

State-Sponsorship of Terrorism: The **Gilmore Commission** of the US Congress gave the following definition of **State-sponsored Terrorism:** *The active involvement of a foreign government in training, arming, and providing other logistical and intelligence assistance as well as sanctuary to an otherwise autonomous terrorist group for the purpose of carrying out violent acts on behalf of that government against its enemies.* Organizations like Hamas and Hezbollah are heavily dependent on state support.

Fundraising through Social Media: The widespread access to and anonymity of the Internet (especially the rapid expansion of social media), have been exploited by terrorist groups to raise funds from sympathetic individuals globally. Social networks are widely used by terrorist organisations to spread their terrorist propaganda and reach out globally to sympathisers.

Crowdfunding: The use of organised crowdfunding techniques also represents an emerging terror financing risk. Crowdfunding is an Internet-enabled way for businesses, organisations, or individuals to raise money, from donations or investments, from multiple individuals. Crowdfunding websites allow people to easily set up a fundraising page and collect donations. Crowdfunding is vulnerable to exploitation for illicit purposes, including instances where the true purpose of the funding campaign is masked.

Virtual Currencies: Virtual currencies such as bitcoin have attracted the attention of various criminal groups and poses a risk of terror funding. This technology allows for anonymous transfer of funds internationally.

Exploitation of Natural Resources: In countries where the government lacks effective control of territory and its resources, the natural resource sector is vulnerable to exploitation for terror financing. Terrorist organisations could use these resources as a means to raise funds by controlling or exploiting a wide variety of vulnerable resources to include gas, oil, timber, diamonds, gold (and other precious metals), wildlife (e.g., ivory trading) and charcoal (e.g., in Somalia).

What are the current international mechanisms to curb Terror Financing?

The Financial Action Task Force (FATF)

FATF is an inter-governmental body to counter global money laundering and terrorist financing. It sets international standards that aim to prevent funding of illegal activities. The FATF works to generate the necessary political will to bring about national legislative and regulatory reforms in these areas. The FATF has developed the FATF Recommendations, or **FATF Standards**, which ensure a **co-ordinated global response to prevent organised crime, corruption and terrorism**. The FATF also works to stop funding for weapons of mass destruction.

Financial Intelligence Units

In order to create a global coordination framework for fight against money laundering and terror financing, a system of **Financial Intelligence Units (FIUs)** has been established.

The core function of an FIU is the receipt, analysis and transmitting relating to **suspect financial transactions**. Additional roles of FIUs include supervisory functions of the **implementation of the Anti-Money Laundering/Combating the Financing of Terrorism (AML/CFT) obligations**, coordinating national initiatives for counter terror funding policies etc. Law enforcement FIUs would generally also have law enforcement powers with regard to AML/CFT issues.

In 1995, the **Egmont Group of FIUs** was established in order to **enhance the exchange of intelligence** between jurisdictions. The Egmont Group of Financial Intelligence Units endeavors to ensure that all the FIUs respect a number of key standards in order to enable maximum cooperation between them.

Counter-Terrorism Committee (CTC)

In the aftermath of the 11 September attacks against the United States in 2001, the Security Council unanimously adopted resolution 1373 (2001). The resolution established a dedicated **Counter-Terrorism Committee (CTC)** of the UNSC. The Committee comprising all 15 UNSC members were tasked with monitoring the implementation of resolution 1373 (2001) which requested countries to implement a number of measures intended to **enhance their legal and institutional ability to counterterrorist activities** at home, in their regions and around the world.

The United Nations Office of Counter-Terrorism (UNOCT)

It has five main functions: **(a)** Provide leadership on the General Assembly counter-terrorism mandates; **(b)** Enhance coordination and coherence across the **Global Counter-Terrorism Coordination Compact** entities to ensure the balanced **implementation of the four pillars of the UN Global Counter-Terrorism Strategy**; **(c)** Strengthen the delivery of United Nations counter-terrorism capacity-building assistance to Member States; **(d)** Improve visibility, advocacy and resource mobilization for United Nations counter-terrorism efforts; **(e)** Ensure that due priority is given to counterterrorism across the United Nations system.

The United Nations Global Counter-Terrorism Coordination Compact is the largest coordination framework across the three pillars of work of the United Nations: peace and security, sustainable development, human rights and humanitarian affairs.

International Convention for the Suppression of the Financing of Terrorism

The Terrorist Financing Convention is a United Nations treaty (1999) that makes it illegal to pay for terrorist acts. The convention also aims to make it easier for the police and courts to work together to stop, investigate, and punish those who pay for such acts. As of October 2018, 188 states had signed the treaty.

No Money for Terror (NMFT)

The NMFT started in 2018 as an initiative of the French government . In the First Conference (2018) participating States agreed on “**fully criminalising terrorism financing even in the absence of a link to a specific terrorist act**” and “**enhancing the traceability and transparency of financial flows**” by developing frameworks to tackle the risks associated with the use of cash, informal remittance systems (including hawalas), prepaid cards, anonymous means of payments etc. The Conference also called for urgent and effective “**implementation of FATF standards relating to non-profit organisations**” without disrupting civil society activities.

The Second Conference (2019) identified “kidnapping for ransom” and “emerging technologies” such as digital and cryptocurrencies, and crowdfunding platforms as new channels through which terrorism may be financed. It also flagged the need for monitoring of non profit organisations .

The Third Conference was held in November 2022 in India.

Read More: [No Money for Terror\(NMFT\) Conference](#)

What are India's domestic efforts to combat Terror Financing?

The Government has taken various steps to combat terror funding in the country. These include: **First**, the Government has strengthened the provisions in the **Unlawful Activities (Prevention) Act, 1967** to combat terror financing by criminalizing the production, smuggling or circulation of high quality counterfeit Indian currency as a terrorist act. It has also enlarged the scope of proceeds of terrorism to include any property intended to be used for terrorism.

Second, A **Terror Funding and Fake Currency (TFFC)** Cell has been constituted in National Investigation Agency (NIA) to conduct focused investigation of terror funding and fake currency cases.

Third, An advisory on terror financing has been issued in April 2018 to States/UTs. Guidelines have also been issued in March, 2019 to States/UTs for investigation of cases of high quality counterfeit Indian currency notes.

Fourth, Training programmes are regularly conducted for the State Police personnel on issues relating to combating terrorist financing.

Fifth, **FICN (Fake Indian Currency Notes) Coordination Group (FCORD)** has been formed by the Ministry of Home Affairs to share intelligence/information among the security agencies of the States/Centre to counter the problem of circulation of fake currency notes.

Sixth, Intelligence and security agencies of Centre and States work in tandem to keep a close watch on the elements involved in terror funding activities and take action as per

What are the challenges in Countering Terror Financing?

First, There is a lack of coordination between international organisations. A coordinated effort between several global counter-terrorism initiatives is missing.

Second, As highlighted in the recent Third NMFT Conference, **State-support to terrorism** prevents effective counter-terrorism response. The Union Home Minister remarked that some countries have made terrorism their “State Policy”. In such circumstances crackdown on terror havens becomes difficult.

Third, The limitations of the domestic institutional frameworks hamper the implementation of international standards at a national level.

Fourth, Making a **distinction between terror-related financial activities and legitimate financial flows** is difficult for the agencies. It is easy to blend terror-financing transactions with genuine business activity due to high volumes of financial transactions taking place globally e.g., it was widely believed that Indo-Pakistan border trade in the Kashmir Valley was also used to facilitate terrorism in Kashmir valley.

Fifth, Genuine businesses are forced to share funds with terrorist groups to carry on their regular business activities. In India, this is evident in mining and infrastructure activities in the red corridor. Law enforcement agencies face the challenge regarding treating these companies as victims of terrorism or the associates of terrorists.

Sixth, Terror groups are (mis)using front organizations (disguised as Non-Profit Organizations) to provide financial support, logistical services, encourage recruitment, and spread malignant propaganda. Government action on such organizations is criticized as ‘human-rights violation’ or abuse of power.

What should be done going ahead?

First, In order to be effective, efforts to counter the financing of terrorism need to rely more on **financial intelligence sharing between countries** and enhanced coordination between national Governments, public and private sector.

Second, In order to be more effective, targeted financial sanctions and other Financial Action Task Force (FATF) mandatory measures need to be buttressed with risk assessment and typology identification, enhanced intelligence sharing and better cooperation between the public and private sectors.

Third, The Union Home Minister has proposed a ‘five-pronged’ approach to counter terror financing at the NMFT Conference. This includes “**monitoring framework**” for cooperation between intelligence agencies, “**beyond-border cooperation**“, the need for “**complete transparency**” among countries in sharing intelligence among others.

Fourth, The State-sponsorship of terrorism has to be effectively curbed. At the NMFT Conference, India's External Affairs Minister and Home Minister have called for '**rising above geo-political interests**' to counter terrorism.

Conclusion

Despite multitude of efforts to counter-terrorism, financing of terror groups has continued unabated. Emerging Technologies like cryptocurrencies are posing new challenges to the agencies. The Governments need to overcome their political differences to combat the scourge of terrorism.

Syllabus: GS III, Role of external state and non-state actors in creating challenges to internal security, Money-laundering and its prevention, Linkages of organized crime with terrorism.

Source: [Indian Express](#), [Indian Express](#), [The Times of India](#), [PIB](#), [FATF](#)

COP27: Outcomes and Concerns – Explained, pointwise

Introduction

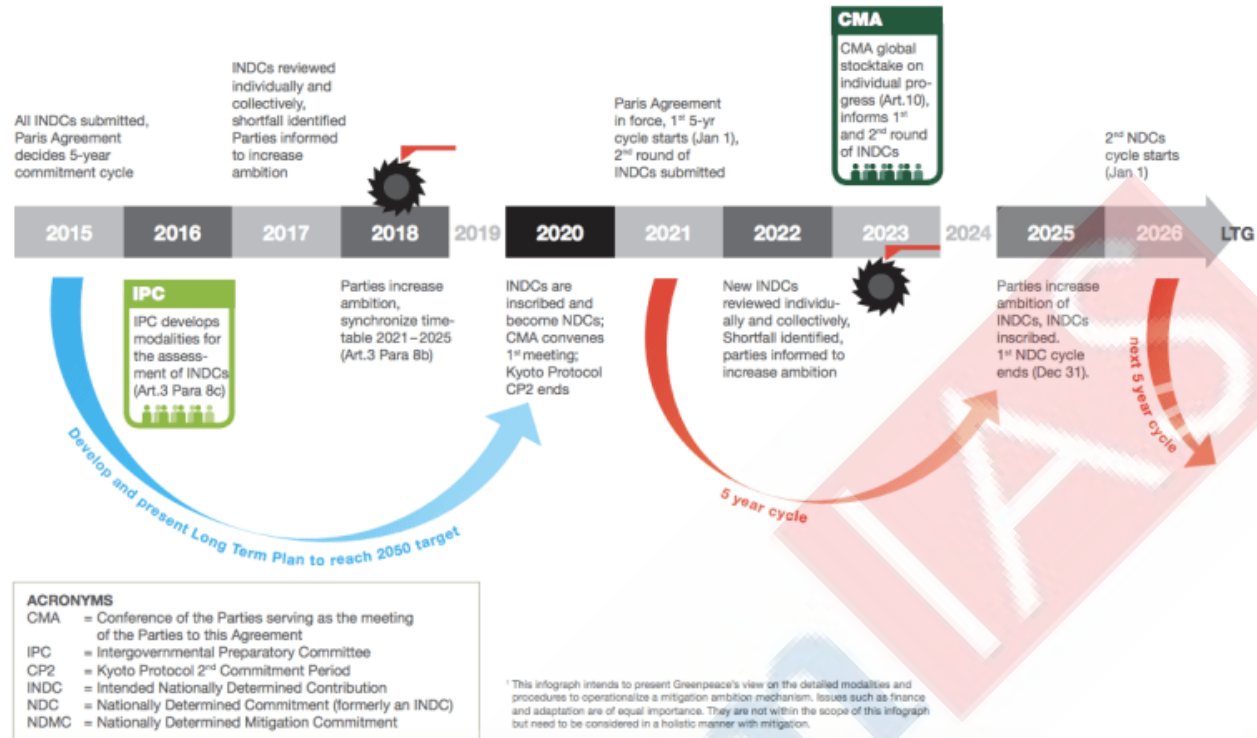
The 2022 United Nations Climate Change Framework Convention (UNFCCC) Conference of Parties (COP), commonly referred to as COP27, concluded recently in Sharm el-Sheikh (Egypt). The COP is the apex decision-making body of the United Nations Climate Change Framework Convention (UNFCCC). The COP has been held annually since the first UN climate agreement in 1992. An estimated 35,000 delegates from more than 190 countries participated in the Conference. The outcomes of COP27 have been termed as a mixed bag, with the decision to establish a Loss and Damage Fund being the most significant achievement. Apart from that, the outcomes have been termed as disappointing by most climate experts and activists.

What are the Key Outcomes of COP27?

On Loss and Damage: Developing countries have been seeking financial assistance for loss and damage for nearly 3 decades. It refers to money needed to rescue and rebuild the physical and social infrastructure of countries devastated by extreme weather. Countries have now agreed to **set-up a fund to provide financial assistance to poor nations** stricken by climate disaster. This is the biggest achievement of the Conference. However, there is no agreement yet on the mechanism of operation of the fund or how finance should be provided and administered.

Read More: [Climate Reparation: Loss and Damage – Explained, pointwise](#)

On 1.5°C Temperature Limit: At COP26 (Glasgow, 2021) countries had agreed to focus on a 1.5°C limit. Since the promises to cut greenhouse gas emissions weren't enough to stay within the 1.5°C limit, countries had agreed to come back every year to make the commitments stronger. This is called the "**ratchet mechanism**". Some countries tried to back out of the 1.5°C goal and get rid of the ratchet at COP27. They didn't succeed, but a plan to get emissions to peak by 2025 was taken out, indicating lack of commitment towards climate action.



Source: Greenpeace

On Fossil Fuels: At COP26, a commitment to phase down the use of coal was agreed. At COP27, some countries, led by India, wanted to include a commitment to phase down all fossil fuels. It was a subject of intense debate but was not included in the final resolution.

The final text of COP27 contained a provision to boost “**low-emissions energy**”. That could mean many things, like wind and solar farms, nuclear reactors, and coal-fired power stations fitted with carbon capture and storage. It could also be interpreted to mean gas, which has lower emissions than coal.

Food Security: The COP27 agreed that “**safeguarding food security and ending hunger**” is a fundamental priority, and that communities can better protect themselves from climate effects if water systems are protected and conserved. Last year’s Glasgow Climate Pact made no mention of agriculture, food or water.

On Technology: COP27 saw the launch of a new five-year work program at COP27 to **promote climate technology solutions** in developing countries.

On Reform in Finance Institutions: The World Bank and other publicly funded finance institutions, have **failed to provide the funding** needed to help poor countries cut their greenhouse gas emissions and adapt to the impacts of the climate crisis. Reform discussed at COP27 involve a recapitalisation of the development banks to allow them to **provide far more assistance to the developing world**. The IMF has US\$1 trillion available to lend to countries in financial distress, but only a small fraction of this is for climate finance.

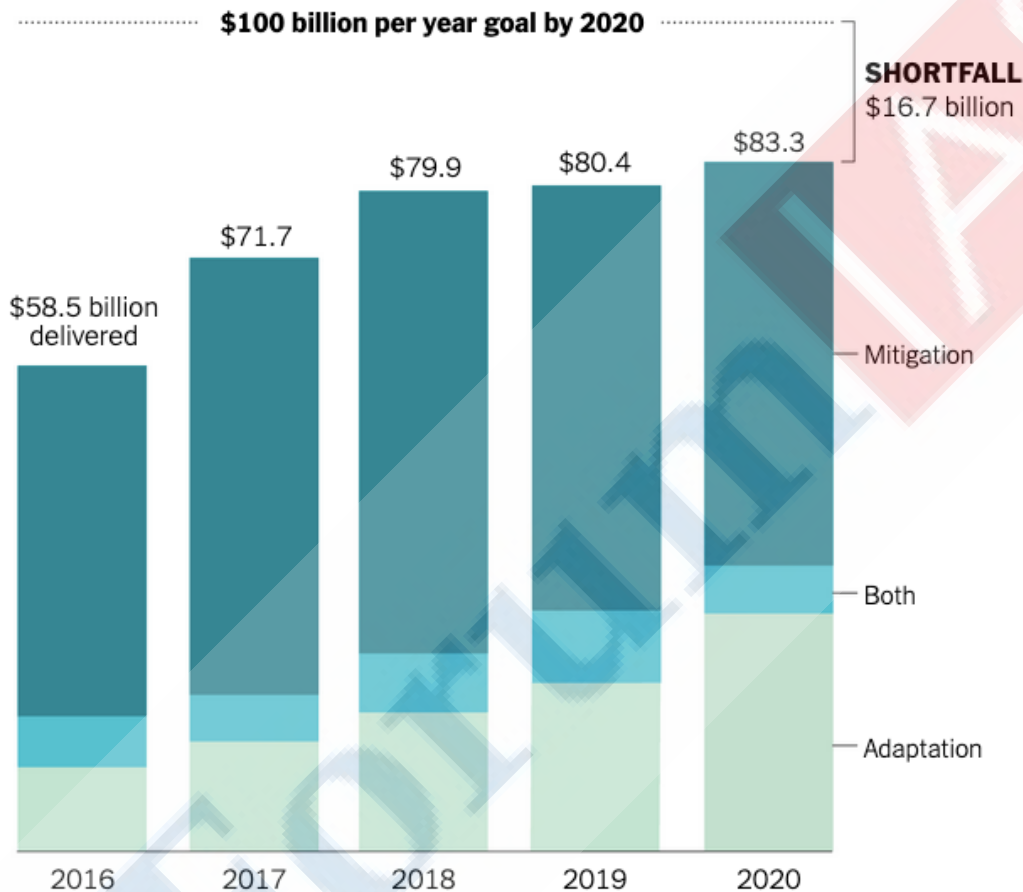
On Adaptation: Of the US\$ 100 billion a year promised to poor countries, only about US\$ 20 billion goes to adaptation measures (like Building flood defences, preserving wetlands, restoring mangrove swamps and regrowing forests). In Glasgow, countries had agreed to double that proportion, but at COP27 some countries sought to remove that commitment. However, after some differences it was reaffirmed.

On Mitigation: A mitigation work programme has been launched in Sharm el-Sheikh, aimed at urgently scaling up mitigation ambition and implementation. The work programme will start

immediately following COP27 and continue until 2030. Governments have also been requested to revisit and strengthen the 2030 targets in their national climate plans by the end of 2023.

Climate Finance Pledges, Unmet

Rich countries promised to mobilize \$100 billion per year in public and private financing by 2020 to help poor countries mitigate and adapt to a changing climate.



Source: *NYTimes*

Sharm el-Sheikh Implementation Plan: The cover decision, known as the Sharm el-Sheikh Implementation Plan, highlights that a global transformation to a low-carbon economy is expected to require investments of at least US\$ 4-6 trillion a year. Delivering such funding will require a swift and comprehensive transformation of the financial system and its structures and processes, engaging governments, central banks, commercial banks, institutional investors and other financial actors.

What were the other developments at COP27?

First, Countries launched a package of 25 new collaborative actions in five key areas: power, road transport, steel, hydrogen and agriculture.

Second, UN Secretary-General António Guterres announced a US\$ 1 billion plan to ensure everyone on the planet is protected by **early warning systems** within the next five years.

Third, The G7 and the **V20** (‘the Vulnerable Twenty’) launched the **Global Shield against Climate Risks**, with new commitments of over US\$ 200 million as initial Implementation is to start immediately in a range of pathfinder countries.

Fourth, The **Food and Agriculture for Sustainable Transformation initiative** (FAST) has been launched to increase the amount and quality of **climate financing contributions to change agriculture and food systems** by 2030.

Fifth, The new Indonesia **Just Energy Transition Partnership**, announced at the G20 Summit held in parallel with COP27, will mobilize US\$ 20 billion over the next 3-5 years to accelerate a just energy transition.

Sixth, Important progress has been made on forest protection with the launch of the **Forest and Climate Leaders’ Partnership**, which aims to unite action by governments, businesses and community leaders to halt forest loss and land degradation by 2030.

What is the significance of COP27?

First, Creating a specific **fund for loss and damage** marked an important point of progress, with the issue added to the official agenda and adopted for the first time at COP27. The Governments agreed to establish a ‘transitional committee’ to make recommendations on how to operationalize both the new funding arrangements and the fund at COP28 next year.

Parties also agreed on the institutional arrangements to operationalize the **Santiago Network for Loss and Damage**, to catalyze technical assistance to developing countries that are particularly vulnerable to the adverse effects of climate change.

Second, The Cover Decision also included ‘**transition to sustainable lifestyles and sustainable patterns of consumption and production**’. This is significant as India’s Prime Minister has pitched for **environmentally-friendly lifestyle** through his **Mission LiFE (lifestyle for environment)** since COP26.

Third, further commitments to a deal on slashing methane emissions were struck on the sidelines, indicating **increasing focus on methane emissions**. Brazil also committed to introducing a **zero-deforestation law** for the Amazon in 2023, with Congo and Indonesia also showing intent to follow suit.

What are the issues/concerns with COP27?

First, COP 27 failed to include any new agreements on curbing fossil fuels or setting new targets to reduce greenhouse gas emissions.

Second, The mitigation work programme was a key part of the Glasgow Climate Pact’s efforts to “keep 1.5°C alive”. But COP27 **did not allow the programme to check progress** against the promises made in Glasgow.

Third, Ahead of the COP 27, new analysis from the UN Environment Programme (UNEP) warned that the amount of adaptation finance flowing to developing countries is currently five to 10 times lower than what is needed. Developed countries have still not delivered on the promise of providing US\$ 100 billion annually to finance both mitigation and adaptation.

Fourth, the developed countries are **pushing for agriculture** to be included under climate action under The **Koronivia Joint Work on Agriculture**. It is a framework under the UNFCCC that recognizes the potential of agriculture in tackling climate change. The Koronivia decision addresses six interrelated topics on **soils, nutrient use, water, livestock, methods for assessing adaptation**, and the **socio-economic and food security** dimensions of climate change across the agricultural sectors. India has held that emissions from the agricultural sectors are not “luxury” emissions but “**survival emissions**” of the poor. Poor and Marginal Indian farmers lack the capacity to support climate action.

What should be done going ahead?

First, To be successful, the programme should focus on dialogue between policymakers rather than negotiation or politics. The developed countries have repeatedly failed to recognize their historical contributions and torpedoed attempts to enhance climate finance. Establishing **Loss and Damage Fund** is a promising start but a **persistent effort is required to make it operational**. Else it will remain another empty pledge like earlier promises on Green Climate Fund.

Read More: [Climate Finance: Meaning, Need and Challenges – Explained, pointwise](#)

Second, According to IPCC the only way to keep greenhouse gas emissions within a 1.5°C limit is to **take action across the entire chains**, including production, consumption and loss and waste. In this context, circular economy should be mainstreamed.

Read More: [Circular Economy: Meaning, Benefits and Opportunities – Explained, pointwise](#)

Third, Actions are the key and not mere promises. One pledge after another, with several such pledges per COP, are not necessarily fruitful. **Measuring progress through actions** that eventually lead to direct emissions reduction is what the developed countries ought to demonstrate to the world. In climate action, no sector, no fuel source and no gas should be singled out for action.

Fourth, At COP27, India negotiated from a position of strength and ensured that the debate moved from coal phase out to fossil phase down. This push exposed the hypocrisy of oil and gas producers, mainly the US and Saudi Arabia, and the text settled on coal phase down, (as in COP26, Glasgow). India should continue to corner gas and oil-producing countries to ensure that the world is on track to achieve the 1.5°C target.

Conclusion

Apart from the Loss and Damage Fund, COP27 has left much to be desired. Countries have lacked intent to enhance their climate action, which bodes poorly for the future. The shortsightedness of developed countries is evident as climate change manifests itself through rising extreme weather events. There is a need to realize that window to act is closing-in fast before the irreversible changes in the climate systems. Hopefully, talks on Loss and Damage fund may change the course of climate negotiations and action.

Syllabus: GS III, Conservation, Environment Pollution and Degradation.

Source: [Indian Express](#), [The Times of India](#), [Mint](#), [The Guardian](#)

Draft Digital Personal Data Protection Bill, 2022: Benefits and Concerns – Explained, pointwise

Introduction

The Government has released the draft of the proposed Digital Personal Data Protection Bill, 2022 (DPDP Bill) for public comments. The Bill is expected to be introduced in the Parliament in the Budget Session 2023. The Bill has undergone multiple iterations. The first draft, the Personal Data Protection Bill, 2018 was proposed by the Justice Srikrishna Committee. The Committee was set up by the Ministry of Electronics and Information Technology (MeitY) with the mandate of setting out a data protection law for India. The Government revised this draft and introduced the Personal Data Protection Bill, 2019 (PDP Bill, 2019) in the Lok Sabha in 2019. The Bill was referred to a Joint Parliamentary Committee (JPC). The JPC Report was accompanied by a new draft bill, namely, the Data Protection Bill, 2021 that incorporated the recommendations of the

JPC. However the Bill was withdrawn in August 2022. Now, the Government has introduced the new Digital Personal Data Protection Bill, 2022.

Timeline of the Personal Data Protection Bill



Why was the Personal Data Protection Bill, 2019 withdrawn?

The Government said that the 2019 Bill was deliberated in a great detail by the JCP, which proposed 81 amendments and 12 recommendations for a comprehensive legal framework for the digital ecosystem. The Government took the decision to work on a comprehensive legal framework and withdrew the Bill.

Key Provisions of Personal Data Protection Bill, 2019 (Withdrawn)

- **Personal data definition:** Any information which renders an individual identifiable. Also, it defined data 'processing' as collection, manipulation, sharing or storage of data.
 - **Territorial applicability:** The Bill included the processing of personal data by both government and private entities incorporated in India. It also covered the entities incorporated overseas if they systematically deal with data principals within the territory of India.
 - **Grounds for data processing:** Data processing by fiduciaries was allowed if consent was provided by the individual.
 - **Sensitive personal data:** It included passwords, financial, biometric and genetic data, caste, religious or political beliefs. The Bill specifies more stringent grounds for the processing of sensitive personal data, such as seeking explicit consent of an individual prior to processing.
 - **Data Protection Authority:** The Bill provided for the establishment of a Data Protection Authority (DPA). The DPA would have been empowered to: (a) Draft specific regulations for all data fiduciaries across different sectors; (b) Supervise and monitor data fiduciaries.
 - **Cross-border storage of data:** Every fiduciary shall keep a 'serving copy' of all personal data in a server located in India.
 - **Transfer of data outside the country:** Personal data (except sensitive personal data which is 'critical') may be transferred outside India under certain circumstances.
- Created by | ForumIAS®

What are the benefits/positive aspects of the Digital Personal Data Protection Bill, 2022?

Data Protection Board of India: The Board would be empowered to direct Data Fiduciaries to adopt urgent measures to respond to Personal Data breaches. It will be have the same rank as a civil court and its decisions will be appealable to a High Court. *Data Fiduciary is/are person(s)*

who determine(s) the purpose and means of processing of Personal Data (e.g., Social media platforms can be data fiduciaries).

Simplified Notice and Consent Requirements: The DPDP Bill contains significantly less onerous notice requirements as compared to the 2021 Bill. The DPD Bill requires Data Fiduciaries to obtain consent from Data Principals prior to processing of their Personal Data. The consent is sought through an itemised notice containing a description of the Personal Data being collected and purpose of processing. The request for consent must be in clear and plain language and available in the 22 (twenty two) languages listed in the Eighth Schedule of the Constitution of India. *Data Principal is the individual to whom the personal data relates to (e.g., Social media users can be Data Principals).*

Introduction of 'Deemed Consent': The DPDP Bill has introduced the concept of 'deemed consent'. It intends to enable processing of Personal Data without explicit consent where it is "reasonably expected that the Data Principal would provide such Personal Data". Other conditions under deemed consent include purposes related to employment (including biometric information) and public interest such as debt recovery and prevention of fraud. This also simplifies consent requirement.

Rights of Data Principals: The DPDP Bill continues to grant Data Principals rights in relation to their Personal Data, such as the **right of correction, right of erasure and right to be forgotten**. The DPDP Bill provides the **right to nominate any other individual to exercise the rights of the Data Principal** in the event of their death or incapacity.

Clarity on Consent Managers: The Bill clarifies that Consent Managers will be **interoperable platforms** registered with the Board. These platforms will enable individuals to manage, review and withdraw consent provided across Data Fiduciaries and platforms.

Duties of Data Principals: The DPDP Bill also imposes certain duties on Data Principals, including the duty to **comply with the provisions of "all applicable laws"**, and a duty to furnish only such information as is **verifiably authentic** while exercising the right to correction or erasure of Personal Data.

Significant Data Fiduciaries (SDF): The DPDP Bill retains the concept of a 'Significant Data Fiduciaries' (SDFs) and allows the **Government to notify an SDF** based on, among other things, **the volume and sensitivity of Personal Data processed by it**, risk of harm to Data Principals, potential national impact and impact on public order.

Compliances for SDFs: The requirement to appoint **(a)** A data protection officer based in India, as the representative/point of contact for grievance redressal; **(b)** An independent data auditor to evaluate compliance; **(c)** The obligation to undertake data protection impact assessment (DPIA) and periodic audits.

Challenges in Formulating Data Protection Law

- Balancing the **Rights of Data Principal** with the **compliances of Data Fiduciary**. Regulations shouldn't be so stringent to make data processing by Data Fiduciary impractical.
- Balancing the Right to Privacy of Data Principals with **reasonable exceptions**.
- Technology evolves fast. Data Protection Law shouldn't be unduly centred on providing solutions to contemporary concerns while **ignoring problems that may emerge in future**.
- Data Principals should be **able to readily exercise their rights and remedies** given their unequal bargaining power with respect to Data Fiduciaries.

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Read More: [Data Protection Framework in India – Explained, pointwise](#)

What are the concerns associated with the Digital Personal Data Protection Bill, 2022?

Missing Rights for Data Principals: The Bill misses out on two main rights for Data Principals:

(a) Right of data portability: It would have allowed the data principal to receive their personal data (that they had provided to the data fiduciary and the data generated by the fiduciary through processing) in a structured format. This would have allowed them to choose between different platforms and enhanced competition between data fiduciaries to increase consumer welfare. This would have eliminated the need to provide all their personal data again while switching the platforms.

(b) Right Foregone: It is the right to be forgotten. It would have allowed the data principal to ask the data fiduciary to stop the continuing disclosure of their personal data. The DPDP Bill, 2022 subsumes this right under the **right to erasure**. This conflation between the general right to erasure with the right to be forgotten which is specific to disclosure of personal data compromises on the right to freedom of speech and expression of other individuals.

Narrow Focus: **(a)** It is focussed on personal data and excludes non-personal data, which was a demand by the industry and civil society alike; **(b)** It eliminates the categorisation of personal data into sensitive and critical.

Government Control: The regulator is now a **Data Protection Board**, with its **role limited to enforcement and penalties**. The other aspects of implementing the law are left entirely up to the Union government (which it will do through rules) and not the specialised regulator. While the **Data Protection Authority** was earlier envisaged to be a **statutory authority** (under the 2019 Bill), the Data Protection Board is now a **Board set-up by the Union Government**. The Government will have a say in the composition of the board, terms of service, etc.

Data Localisation: The draft law does not require local storage of data. Unlike previous versions, it does not ask businesses to store certain sensitive and critical data exclusively in India or to mirror a copy of such data on Indian servers. But it **does not allow free flows of data across borders** either. Businesses can **only transfer data to countries that are notified by the Government of India**. The whitelisting of regions (where data flow will be allowed) is not clear. Data Localization has been a contentious issue including in the ongoing FTA negotiations with the UK. Without the assessment criteria being defined in the law though, this could mean that whitelisting depends more on geopolitics than appropriate privacy safeguards.

No Criminal Liability: The Bill only prescribes monetary penalties (under Schedule 1 of the DPDP Bill) for breaches and non-compliances and limits such penalties to breaches/non-compliances that the **Data Protection Board determines to be 'significant'**. The DPD Bill has done away with criminal liabilities, as well as penalties that are directly linked to the turn-over or revenue of an erring Data Fiduciary. Penalties vary from INR 50 crore to INR 250 crore. Section 25 stipulates maximum penalty to be limited to INR 500 crore.

Data of Children: The Bill requires parental consent for age less than 18 years. Parental consent would be required every time they want to access the internet. Some experts have criticized this:

(a) The Bill fails to recognize that consent of a toddler is different from that of an adolescent. It limits their evolving capacity; (b) It might hamper their access to the internet; (c) Requiring consent from parents would hamper autonomous development of children since parents may not want them to be exposed to viewpoints contradictory to their own. Such restrictions are in violation of India's obligations under the **Convention on Rights of the Child**.

Data Collection: The Draft removes explicit reference to certain data protection principles such as **collection limitation**. Data fiduciary can collect any personal data consented to by the data principal. Data principals often do not have the requisite awareness about the kind of personal data that is relevant for a particular purpose (e.g., Photo Filter App has no requirement for device location or contacts yet many apps seek such details).

Government Exemptions: Government bodies can be exempted from the application of the law in the interests of India's sovereignty and integrity, security, foreign relations, public order and others. There is no bar on how long government agencies can retain data. The earlier version of the Bill subjected government exemptions to a "just, fair, reasonable and proportionate" procedure, which is missing from the latest draft.

Reduced Information Requirement: The previous versions required considerable information in terms of the rights of the data principals, grievance redressal mechanism, retention period of information, source of information collected etc. to be provided for the data principal. The current Draft reduces the scope of this information to the personal data sought to be collected and the purpose of processing the data.

What steps can be taken going ahead?

First, The Government should consider providing statutory status to the Data Protection Board.
Second, More provisions should be covered through the Legislation rather than leaving it to the rule-making by the Government (Executive).

Third, A plan should be put in place to compensate individuals in the event of a data breach.

Fourth, The right to privacy must be respected which, critics argue, seems to be lacking in this case. Rights such as data portability and the right to opt out of data collection must be included.

Fifth, The principles of the General Data Protection Regulation (GDPR) of the EU can be incorporated in the Draft Bill.

Rights of Users under the GDPR

- **The right to be informed:** Data subjects must be informed about the collection and use of their personal data when the data is obtained.
- **The right to access their data:** A data subject can request a copy of their personal data via a data subject request. Data controllers must explain the means of collection, what's being processed, and with whom it is shared.
- **The right of rectification:** If a data subject's data is inaccurate or incomplete, they have the right to ask to rectify it.
- **The right of erasure:** Data subjects have the right to request the erasure of personal data related to them on certain grounds within 30 days.
- **The right to restrict processing:** Data subjects have the right to request the restriction or suppression of their personal data (though it can still be stored).
- **The right to data portability:** Data subjects can have their data transferred from one electronic system to another at any time safely and securely without disrupting its usability.
- **The right to object:** Data subjects can object to how their information is used for marketing, sales, or non-service-related purposes. The right to object does not apply where legal or official authority is carried out, a task is carried out for public interest, or when the organization needs to process data to provide customized services.

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Conclusion

Several experts have lauded the improvements in the Draft Digital Personal Data Protection Bill, 2022 over the earlier versions. Yet several concerns remain. The Government should try to incorporate the comments of the civil society/public on the Bill before it is introduced in the Parliament.

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](#), [The Hindu](#), [The Hindu](#), [The Times of India](#), [Mint](#), [Mint](#)

Improving Agriculture Yield in India – Explained, pointwise

Introduction

India is poised to become the most populous nation in the world. The UN Report on World Population Prospects estimates that India's population is expected to reach 1.5 billion by 2030. The global population is estimated to reach 8.5 billion by 2030 and 9.7 billion by 2050. This will put pressure on the global food systems including India. Ensuring food security for the rising population will become a new challenge in this decade. A further challenge will be added by the impending climate change and its impact on agriculture yields. India is among the largest producers of food (grains, fruits/vegetables, pulses, sugarcane among other crops). This is partly due to large proportion of arable land in India, rather than high agriculture yield. In this context, several agriculture experts argue that further rise in agriculture production in India can be achieved through enhancing agriculture yield as competing land-use has limited further expansion of arable land.

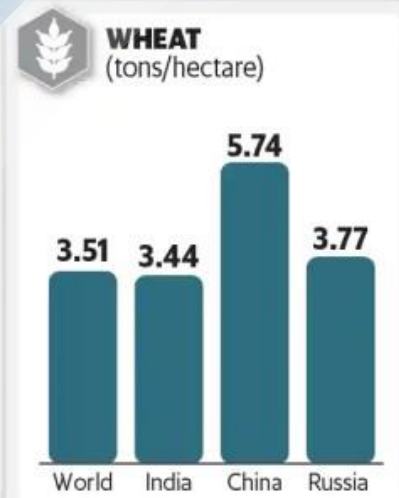
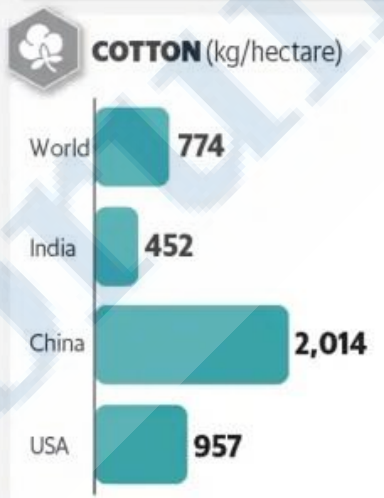
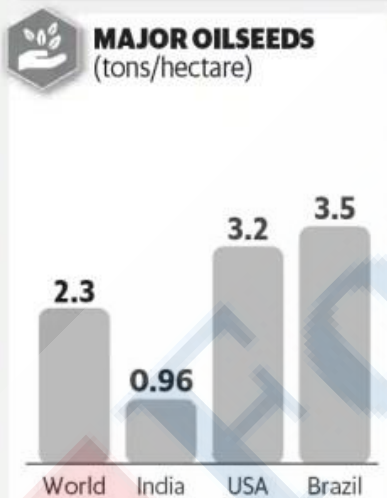
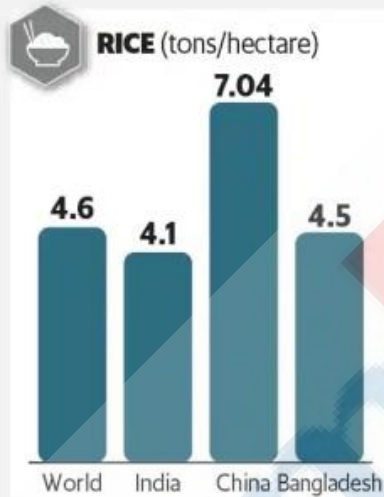
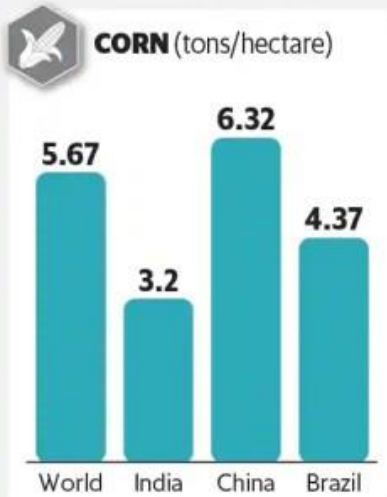
What is the current status of agri yields in India?

India's agriculture yields are below the global average in almost all major crops, and much below the global maximum level of yield e.g., India's wheat yield is 3.44 tons/hectare while global average is 3.51 tons/hectare. China's yield is 5.74 tons/hectare.

Similarly, India's cotton yield at 450 kg/hectare is only ~22% of China's yield of 2000 kg/hectare. India's corn yield (3.2 tonnes/hectare) is only about ~55% of global average (5.67 tonnes/hectare).

WHERE THE GAPS ARE...

Yields in major producers



Note: Crop data is for the year 2020-21; Milk data for 2020; Russia numbers for winter season wheat
Major oilseeds include soybean, sunflower, peanuts, cottonseed and rapeseed/mustard

Source: World Agricultural Production, USDA, November 2022; FAOSTAT

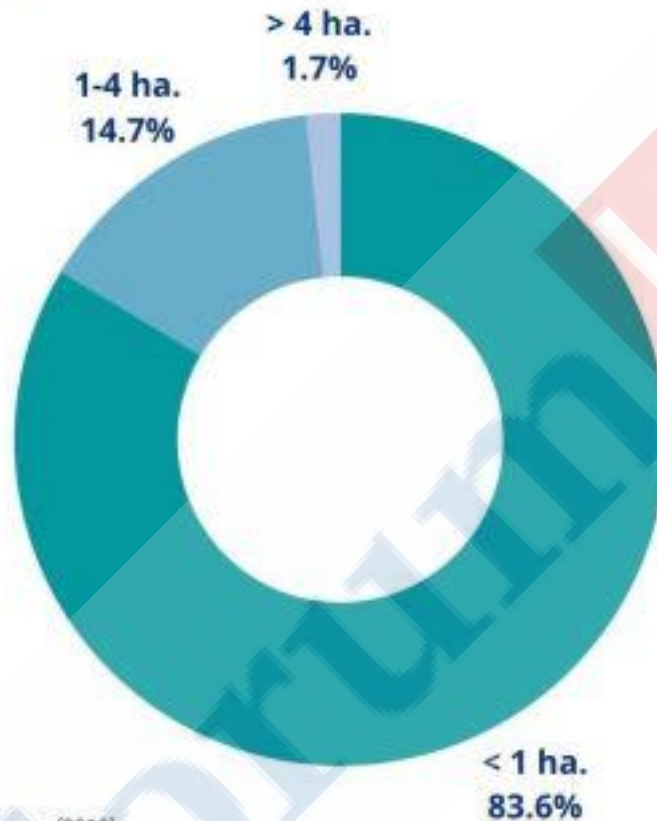
Source: Mint

What are the reasons for low Agriculture Yield in India?

Small and Fragmented Landholdings: According to 2010-11 Agriculture Census, the total number of operational holdings was 35 million with average size of 1.15 hectares (ha). According to 77th Survey of the NSO (2019), ~85% landholdings are smaller than 1 hectare. Small landholdings prevent modern scientific and mechanized farming which lowers yields.

Distribution of Landholdings in India

Almost 5/6th of landholdings in India are smaller than 1 hectare (ha.). The Average area per landholding is 0.9 ha. The average landholding per household is 0.51 ha.



Source: NSO 77th Survey (2019)

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Subsistence Farming: Majority of farmers are engaged in subsistence farming. There is little surplus to invest in capital formation in agriculture (like machinery, irrigation). Low capital formation reduces yields.

Poor Access to Credit: Low-access to credit and prominent role of unorganised creditors affects decisions of farmers in purchasing of inputs and selling of outputs.

Low use of Technology: Low level of mechanization and technology use (including scientific use of fertilizers etc.) contributes to poor yields.

Seeds: High-yielding varieties (HYV) of seeds contributed to green revolution. However, access to HYV seeds is limited and small farmers practicing subsistence farming lack resources to use these seeds.

Irrigation: According to the Ministry of Agriculture, Rainfed agriculture occupies about 51% of country's net sown area and accounts for nearly 40% of the total food production. Dependence on erratic monsoon results in high wastage (damage due to high/scanty rainfall).

Low investment in Agriculture Research: Total agriculture research spending in India grew from US\$ 0.5 billion in 1981 to US\$ 4 billion in 2016. During this period, spending in China grew from US\$ 0.2 billion to US\$ 7.7 billion. Further, a weak IPR regime discourages the private sector to invest and innovate. India's research and extension services are stagnating due to chronic underfunding.

Vicious Cycle: Low agriculture yields implies low production and little surplus for capital formation. This prevents adoption of modern techniques and scientific methods of production, keeping productivity suppressed.

What steps can be taken to improve Agriculture Yields?

NITI Aayog has suggested several steps to improve India's agriculture yield.

Promoting New Technologies and Reforming Agricultural Research and Extension: Reforming and strengthening of India's agricultural research and extension systems is crucial. Productivity enhancement requires research toward discovery of robust seed varieties and other inputs, appropriate crops and input usage for a given soil type and effective extension services. Judicious and safe exploitation of modern technology including genetically modified (GM) seeds is necessary.

Read More: [GM Crops in India: Issues and challenges – Explained, pointwise](#)

Adoption of modern methods like precision farming can ensure judicious use of resources, reduce wastage and enhance yields.

Read More: [Precision Farming: Technologies, Benefits and Challenges – Explained, pointwise](#)

Agri-entrepreneurship and Agri-Startups can play a vital role in this aspect.

Read More: [\[Kurukshetra October Summary\] Artificial Intelligence in Agripreneurship \(AI in Agriculture\) – Explained, pointwise](#)

Irrigation: Pradhan Mantri Krishi Sinchai Yojana (PMKSY) provides a sound framework for the expansion of as well as effective use of water in irrigation. NITI Aayog suggests that the impact of the scheme can be greatly enhanced by blending it with asset creating initiatives under MNREGA. It can help undertake lasting and efficient minor irrigation projects such as irrigation tanks. At the same time focus should be on judicious use of water through techniques like System of Rice Intensification and sprinkler and drip irrigation system. Government can provide financial support to install such systems.

Seed Banks: Hybrid seeds are expensive and out of reach of poor farmers. Creating community Seed Banks can reduce dependence on market for seeds. The seed banks not only protect the existing crop varieties but also ensure supply of seeds to the farmer to meet contingency.

PPPs: PPPs could help bring cutting-edge technologies and approaches to India's agricultural sector. Use of IT and biotech can transform agriculture, raising its production levels and outputs. PPPs focused on getting farmers access to vital information, methodologies and the latest technology to help them in areas such as crop rotation, weather patterns, fertilizer use etc. can revolutionize agriculture and enhance agriculture yields.

Diversification: Encouraging farmers to diversify to higher value commodities such as fruits, vegetables, flowers, fisheries, animal husbandry and poultry will be a significant factor for higher agricultural growth, particularly in rain-fed areas. Shift into high value commodities such as .

Focus States: Extensive focus has to be placed on States with low agriculture yield in the Eastern region. Rices yields in Eastern States of Assam, Bihar, Chhattisgarh, Jharkhand, Odisha, eastern Uttar Pradesh and West Bengal are 40-50% lower than Punjab. Focused Government intervention through expansion of irrigation, access to seeds, support through MSP and insurance schemes can help transform agriculture in these States.

Conclusion

Improving Agriculture yield will be the major lever to drive growth in the agriculture sector in this decade. At the same time, it assumes importance in the context of rising population and the impacts of impending climate change. The focus should be to increase output not just per unit of land but also with respect to water and fertilizer use. Improved yields will contribute to enhance farm incomes and address rural distress. It will help increase India's per capita income and facilitate transition towards a developed economy.

Syllabus: GS III, Indian Agriculture

Source: [Mint](#), [NITI Aayog](#), [World Bank](#)

[Kurukshehra November Summary] S&T: Towards Women Empowerment**Introduction**

On the occasion of the Independence Day on 15th August, 2022, honorable Prime Minister of India emphasised that women power is significant for the growth of India and noted the contribution of 'Nari Shakti' in the fields of law, education, science, law enforcement among other. Globally, governments and organisations are focusing on promoting gender equality and women empowerment to untap the potential of women as the precious human capital. The first steps were taken under the UN Conference on Women in Mexico (that marked 1975 as International Women's Year) followed by the 4th UN World Conference on Women held at Beijing in 1995. The objectives of the conference highlighted full gender equality and integrating women in developmental activities by creating opportunities for full participation at diverse workplaces. The Government of India has taken several steps to promote participation of women in the field of science and technology.

Women in Science and Technology in India (1950-2000's)

Women have been underrepresented in the the field of science and technology. The First **Science and Technology Policy** in India (**Scientific Policy Resolution**, 1958) acknowledged women's role in Science and Technology and stated, "*To ensure that the creative talent of men and women is encouraged and finds full scope in scientific activity*". However, Women remained absent from research and technology due to various sociocultural and economic constraints.

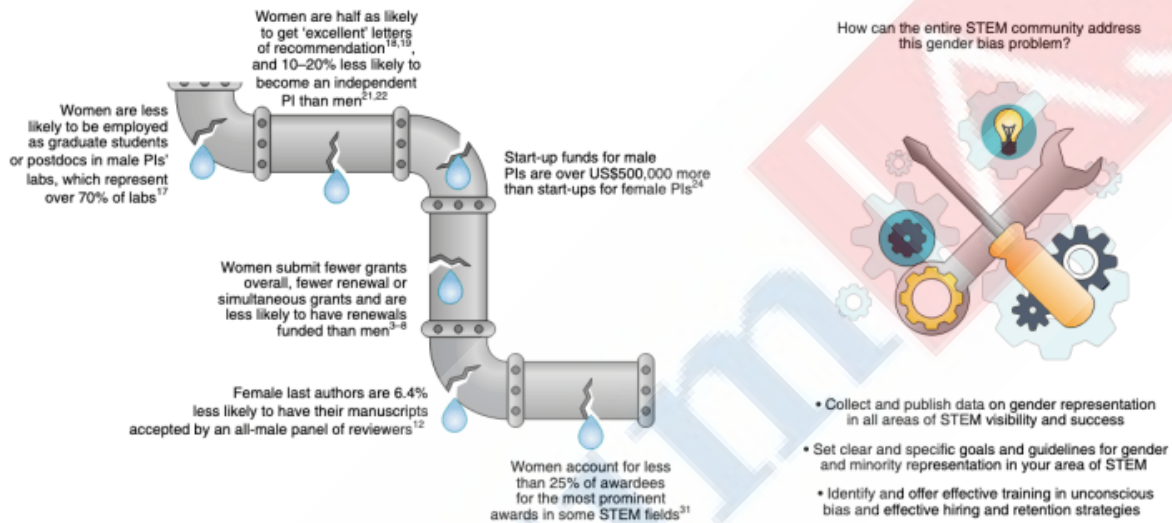
In the 1960s-80s, very few women progressed to top positions. Like **EK Janaki Ammal**, who led **Botanical Survey of India**. The three national academies of science (INSA, NASI, IASc) had a small proportion of elected women scientists. Women scientists were not selected for any awards due to gender bias of selection committees dominated by men. Till early 2000s, only 8 women scientists had won the Shanti Swarup Bhatnagar Prize (instituted in 1958). Gender bias restricted career advancement opportunities for women. Thus women were missing in leadership and top administrative positions.

Winds of Change – The 21st Century for Women in S&T

The first focused move on women empowerment in science and technology was when Dr. M S Swaminathan initiated a chapter on '**Science and Technology for Women**' in the Sixth Five Year Plan (1980-85). The chapter was prepared by **Dr. Manju Sharma**. She was the **first woman president of National Academy of Sciences, India** (NASI) and Secretary, Department of Biotechnology (DBT).

The Government declared **2001 as the year of empowerment of women**. The (then) Prime Minister noted that "*Developing countries that have made remarkable social progress, have done so primarily through the **empowerment of women**, which has had enormous impact in terms of **literacy, health and economic well-being** of families*".

The Science and Technology leadership focused on women enabling policies and initiated implementation of programmes to increase participation of women in STEM (Science, Technology, Engineering and Mathematics) disciplines. The **Science and Technology Policy 2003** emphasised; “To promote the **empowerment of women in all science and technology activity** and ensure their full and equal participation“. A few important scientific and technological empowerment goals were identified: **(a) Capacity Building; (b) Promoting Gender Neutral Workspaces; (c) Providing Access to information to women in science and technology; (d) Increasing the number of girls in science and providing ways to overcome the challenges of the issue of ‘Leaky Pipeline’ at tertiary and mid-career level.** (*The ‘leaky pipeline’ metaphor describes the way in which women become underrepresented minorities in the STEM fields*).



| The leaky pipeline of women in STEM. The 'leaky pipeline' often depicts women passively leaking out of STEM careers with no discussion of why those leaks occur, but, in fact, the cracks and gaps caused by the biases and barriers are a major cause of the leak of women and minorities out of the STEM pipeline. PI, principal investigator.

Source: *How the entire scientific community can confront gender bias in the workplace*, Kathleen E. Grogan, University of Cincinnati, US

Initiatives taken by the Government

National Task Force for Women in Science

In 2002, Prof. MVS Valiathan, the President of **Indian Nation Science Academy (INSA)** constituted a committee to examine the status of women in science in India and to investigate factors influencing their participation. The recommendations of the INSA report on 'Careers of Women in Science' prompted the Scientific Advisory Committee of the Prime Minister (PM-SAC) to constitute a National Task Force for Women in Science in December 2005 under the Department of Science and Technology (DST). The task force identified several issues like **(a)** Female students in science were less than the ideal fraction of 50%; **(b)** Engineering had the fewest women; recruitment policies and family responsibilities led to a “leaky pipeline” with the number of women drastically decreasing from post-doctoral to regular faculty/scientist positions. Due to these disparities, there were few women science leaders in administrative and policymaking bodies.

The Task Force made several recommendations like: **(a)** Recruitment of deserving women scientists in institutions; **(b)** Selection/hiring committees should include women scientists; **(c)** Committee Members to avoid asking questions with inherent gender bias; **(d) Age relaxation** for exceptional female scientists; **(e) Refresher training/mentorship programmes** for career advancement and re-entry to enable women who took break for family reasons; **(f) Women-**

friendly workplaces with creches, and safeguarding policies against sexual harassment; **(g)** Promote scientific temper among schoolgirls, summer/winter science camps and interaction with renowned women scientists (role models); **(h)** New policies with focus on **maternity leave**; **(i)** Establishing **gender units** in State S&T councils; **(j)** **Establishing women's universities** in States with low numbers of women in science; **(k)** Developing avenues to promote entrepreneurship and self-employment for women scientists.

KIRAN (Knowledge Involvement in Research Advancement through Nurturing)

It is a DST division created in 2014 to encompass all women-exclusive schemes to **bring gender parity** in S&T, and provide a framework for gender mainstreaming.

It supports **Women Scientist Scheme** (WOS, launched in 2002-2003), **Curie Program** (2008-09) and the more recently launched 'mobility scheme'.

Women Scientist Scheme (WOS)

WOS-A provides opportunities to women researchers who have taken a break in a career primarily due to family responsibilities, relocation, etc for pursuing research in basic or applied sciences in frontier areas of science and engineering.

WOS-B provides grant support to women scientists for developing S&T solutions for solving grassroots level issues and promoting social benefit.

WOS-C provides a one-year internship in the domain of Intellectual Property Rights (IPRs).

CURIE Programme (2008-09): Promoting S&T infrastructure

National Task Force had recommended to increase the number of women in S&T by providing them with cutting-edge infrastructure and promoting scientific skills training. The DST initiated a special programme called "Consolidation of University Research for Innovation and Excellence in Women Universities" (CURIE) and supported 9 women's universities to improve the R&D infrastructure.

At present, the programme is expanding via a new component 'Support for Women PG Colleges' with a focus to improve STEM education and research in postgraduate colleges to provide quality science education to girls in small cities.

Mobility Scheme

Many women scientists face difficulties due to relocation (marriage, transfer of spouse to a different location etc.) and struggle to search career options at a new place. Mobility scheme offers a contractual research award towards conducting independent research in any location. This enables women to undertake research during early phases of their career while fulfilling key domestic responsibilities.

Biotechnology Career Advancement and Re-orientation Programme (BioCARE)

It was launched by DBT in 2011 for career development of employed/unemployed women researchers up to 45 years of age by providing extramural research grant support. This scheme is focused towards bringing women researchers to mainstream science after a career break. So far, 361 women scientists have benefitted of which 10-12% have been successfully employed by research institutions.

Role of National Science Academies

The three science academies initiated multiple steps to empower women in science. IASc has published multiple books to **promote interest of girls in science** (like 'Lilavati's Daughters: The Woman Scientist of India' and 'A Girls Guide to life in Science'). IASc has also focused on **mentoring women scientists** to realise their full potential and to generate awareness on gender issues in science and academia.

The three science academies together established a committee that reports to the President on the status of women empowerment in science as well as the role of women scientists in bringing

technology to the rural women to uplift them. An inter academy panel on Women in Science in India was constituted in June 2015 that came out with a vision document called, '**A roadmap for Women in Science and Technology**', which led to constitution of a 'Standing Committee on Women in Science' by DST in 2016.

Application of S&T for Women's Welfare

Indian Council of Agriculture Research (ICAR) and NASI have developed various initiatives and awards to honour scientists and technicians who design new solutions to reduce rural women's labour in agri-based livelihoods.

'**S&T for Women**' is a DST programme launched in 1981-1982 to engage women scientists in research and development to improve quality of life of rural women. Since its inception, more than 2000 projects and 500 technologies have been sponsored to empower rural women. Rural women are given access to technology solutions and trained to use innovative approaches to improve their working conditions. Scientists are encouraged to develop technologies for rural women in hilly, coastal, and arid regions e.g., one area of intervention is R&D in post-harvest technology (like thrashing) to improvise tools used by rural women for ease of use.

Women Technology Parks are another innovative concept that highlight women empowerment through S&T. They represent a link between rural women workforce and scientists. Their key mandate is to **promote technology development** and **its demonstration** and adaptation to promote women's employment in the area of dairy, poultry, sheep and goat farming, aquaculture, floriculture, mushroom cultivation, value added products, fruit and vegetable-based products, bee farming, bio fertiliser production, coir and jute products, vermiculture and vermicompositing etc. These parks are strategically located near women farmers' community to facilitate demonstration of methodology by scientists.

A **national award for 'Women's Development via Application of Science and Technology'** honours individuals/institutions that have made significant S&T advancements for women empowerment at grass root level.

The DBT also supported setting up a **Golden Jubilee Women's Biotech Park** at Siruseri, Kanchipuram District in 2001. The Park is an entrepreneurial facility primarily **supporting first generation women entrepreneurs** and women scientists and provides support towards making **small-scale investments** to independently take up production of value added products such as herbal cosmetics and essential oil, bio-pesticides, bio-fertilisers, ready to eat snacks etc.

Application of science and technology have also been sought for **providing a healthy lifestyle to rural women** with special focus on **nutritional needs, hygiene** and **sanitation**.

Environment conservation is also an issue that hugely impacts lives of rural women and thus scientists are nudged to undertake environmental sustainability projects with a provision for realising the objectives by involving the rural

Vigyan Jyoti, is a programme introduced by DST (in 2019-20) with an aim to **provide exposure to meritorious young girls in tier 2 cities and remote and rural areas to pursue a career in STEM**. The programme promises hand-holding and mentoring for girls from their school stage till PhD. Activities such as science camps, special lectures, counselling of parents and interaction with women scientists are planned for girls as a part of early exposure to science and related careers. 100 Jawahar Navodaya Vdiyalays (JNVs) are currently acting as '**Vigyan Jyoti Knowledge Centres**' to girls from Govt. schools, of small cities and rural areas.

GATI (Gender Advancement for Transforming Institutions) has been established by DST as a mission mode programme. Its mission is to encourage universities, colleges and other educational and research institutions to prioritise **Diversity, Equity** and **Inclusion (DEI)** in their operations. This will help them attract the best possible talent. The Institutions need to overcome

cultural and systemic blockers that impede advancement of women. Institutions will be required to create policies, practises, and action plans and will be assessed for GATI Award.

Conclusion

Attention to women's concerns has revealed the value of cognitive diversity in the scientific process. There are still many 'Firsts' to be conquered, for example recently Dr N Kalaiselvi became the first women Director-General, CSIR and Secretary, DSIR. With the ongoing efforts, the coming years shall hopefully see S&T workspaces where women representation is normalised in all roles starting from entry to reaching higher echelons of leadership and policy making.

Syllabus: GS I, Social Empowerment; GS II, Welfare schemes for vulnerable sections of the population by the Centre and States and the performance of these schemes.

Source: Kurukshetra November 2022, [DST](#)

Millet Production in India – Explained, pointwise

Introduction

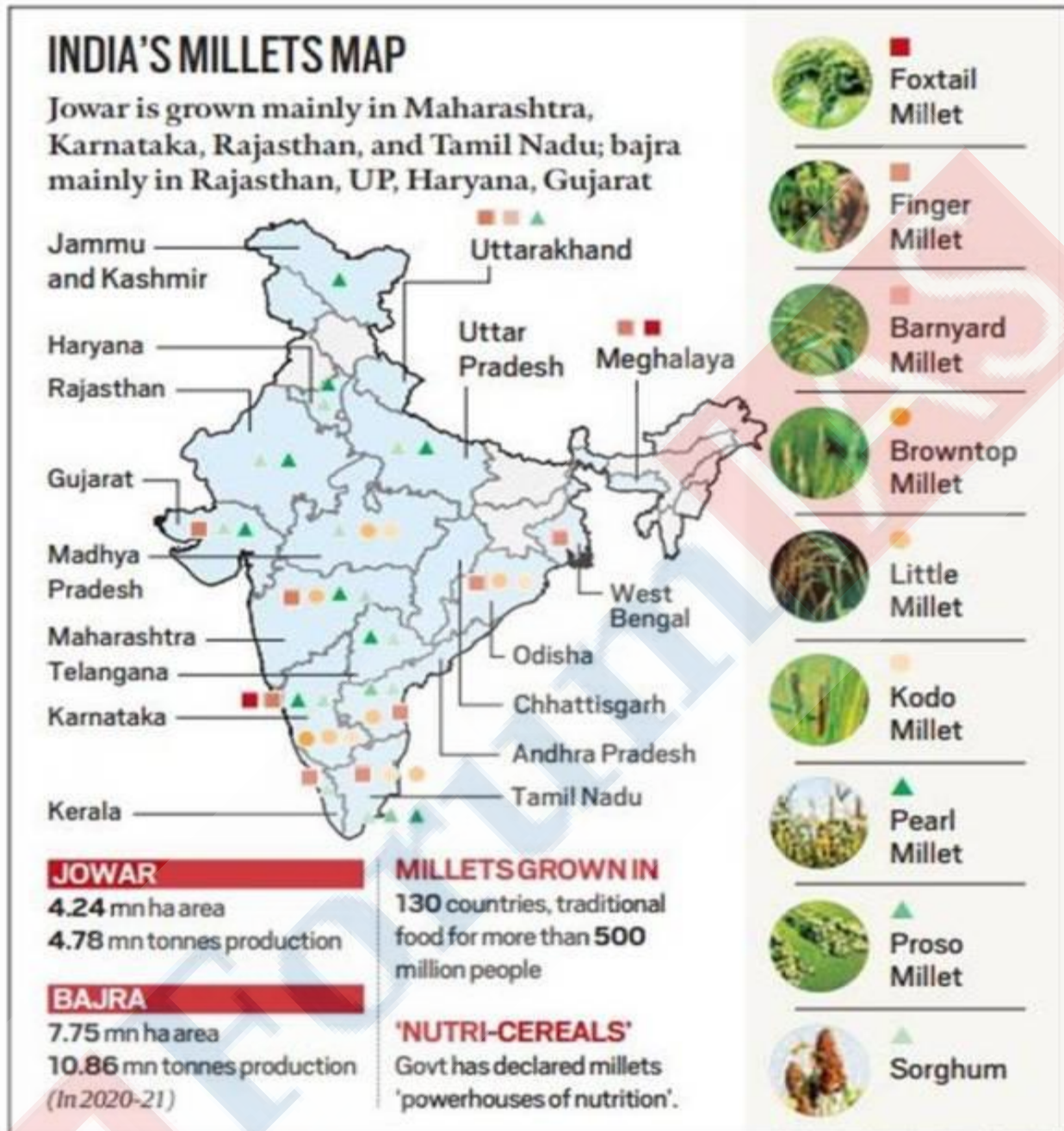
Based on persistent efforts by the Government of India, the UN (in 2021) had declared 2023 as the International Year of Millets (IYOM23). In this context, the pre-launch celebration of the IYOM23 was organized jointly by the Ministry of External Affairs and the Ministry of Agriculture. On the occasion, India's External Affairs Minister named "Covid, Conflict, and Climate" as the world's primary food security challenges. He placed the cultivation and popularisation of millets in the context of the larger imperative of 'de-risking the global economy'. The Government has taken multiple steps to enhance millet production in India. Production and consumption ecosystem of millets faces certain challenges that need to be overcome to further improve adoption and consumption of millets.

What are the conditions necessary for Millet Production?

Millets are a group of small-seeded grasses (*Poaceae* or grass family), widely grown around the world as cereal crops or grains. They are used as both human food and animal fodder. Millets provide food security to millions of households and contribute to the economic efficiency of farming. Millets include **three major** (Sorghum (*Jowar*), Pearl (*Bajra*), Finger (*Ragi*)) and **six minor crops** (Barnyard (*Sanwa*), Proso (*Chenna/Barr*), Foxtail (*Kakum*), Kodo, Brown Top and Little (*Kutki/Shavan*)).

Climate Requirements: Millets require **warm temperatures for germination** and development and are **sensitive to frost**. For these reasons, they are **normally planted from mid-June to mid-July** period. Optimum soil temperatures for seed germination are between 20°C and 30°C. Millet are efficient users of water and grow well in areas of low moisture. They can grow in areas with annual rainfall range of ~30-50 cm. Millets are often grown as **catch crops** (*a crop grown in the space between two main crops or at a time when no main crops are being grown*).

Soil Requirements: Millets are **highly adaptable to a variety of soil conditions**, from extremely poor to very fertile, and can handle a degree of alkalinity. Alluvial, loamy, and sandy soils with good drainage are the ideal soils for millet cultivation.



Source: Indian Express

What are the benefits of Millet Production?

Nutritional and Health: (a) According to ICAR-Indian Institute of Millets Research, Hyderabad, Millets contain 7-12% protein, 2-5% fat, 65-75% carbohydrates and 15-20% dietary fibre. They are more nutritious compared to fine cereals. They contain higher protein, fat and fibre content; (b) They are **gluten free** and non-allergenic. They have low Glycemic Index (*GI, value used to measure how much specific foods increase blood sugar levels*) and are rich in bioactive compounds and essential amino acids. Because of low GI, they are good for diabetic persons; (c) They are also rich in micronutrients like calcium, iron, zinc, iodine etc.; (d) They are **three to five times more**

nutritious than wheat and rice in terms of proteins, minerals and vitamins; **(e)** Millets can help combat cardiovascular diseases, anaemia, calcium deficiency etc.

Millets are considered to be the **next super food** or 'nutri-cereals' of the world because of their high nutritional content. They can be useful as a sustainable means for nutritional security.

Food Security: **(a)** Millets are sustainable food source for combating hunger in a changing world climate. Millets secure sixth position in terms of world agricultural production of cereal grains and are still a staple food in many regions of the world. These are rich source of many vital nutrients and hence, promise an additional advantage for **combating nutrient deficiencies in the third world countries**; **(b)** Millets are resistance to climatic stress, pest and diseases; **(c)** They can be stored for long with ease.

Environmental: **(a)** Millets have low water requirement and are drought resistant. They have short growing season and require less water during growth. Millets can grow in regions with <50 cm annual rainfall; **(b)** They can be grown in dry land areas using farmyard manures, thus **reducing the dependence on synthetic fertilisers**.

Economic: **(a)** Millets offer farmers a **stable source of income** as they are drought-resistant and less susceptible to failure due to weather-related events; **(b)** Millet production requires a low initial capital investment; **(c)** The global Millets market was valued at US\$ 9.95 billion in 2020 and is projected to reach US\$ 14.14 Billion in 2028, growing at a CAGR of 5% from 2021 to 2028

Social: **(a)** SDG: Millets have the potential to help achieve the sustainable development goals (SDGs), mainly **SDG 2** (Zero Hunger), **SDG 3** (Good Health and Well-being), **SDG 12** (Sustainable Consumption and Production), and **SDG 13** (Climate Action); **(b)** Millets can be helpful in reducing gender nutrition gaps and inequalities; **(c)** Other social benefits include a doubling of farmers' income and an **increase in human capital** as a result of an increase in the availability of nutritious food .

What are the challenges in Millet Production?

Mono-cropping: The Green Revolution has altered the cropping pattern to wheat-paddy cycle. The area under Millet cultivation reduced from 37 million hectares in pre-Green Revolution period to ~14 million hectares. Millets have become a predominantly fodder crop from staple diet earlier.

Inconsistent Supply and Demand: **(a)** According to NSSO household consumption expenditure survey less than 10% of rural and urban households reported consumption of millets. It is not the first choice of either consumers or farmers; **(b)** The Millets Mission has led to the inclusion of grain in the public distribution system, however the quotas are small; **(c)** The lack of access to HYV seeds has led to **low crop productivity**, the lack of public awareness about nutritional benefits of millets has led to **limited adoption of millets**. In addition, **limited distribution** and **lack of market knowledge** have resulted in sub-optimal reach, lower price realization and wastage.

Processing Issues: **(a)** Some millets **require multiple processing** for optimization of grain recovery and optimization of polishing to retain their nutrition value. Processing of millets face several hurdles owing to variation in size of various millet types and low shelf life of the processed millets. The grains vary in terms of shape, nature of grain surface, hardness, husk-grain bonding etc.; **(b)** Furthermore, there are variations within the same small millet crop due to variation in varieties, cultivation practices, and microclimate across production regions. Lack of processing units make it difficult to bring cultivated millets to consumption market.

Low Shelf Life: Processed Millets (like millet flour) have poor shelf life due to its **intrinsic enzyme activity** (lipase activity, lipid oxidation etc.) that causes rapid development of rancidity

and bitterness. Millet products are also **prone to moisture** and water activity. Quality assurance thus greatly depends on different pre-treatments and storage conditions.

Ease of Consumption: Wheat has gluten proteins that swell and form networks on adding water to the flour, making the dough more cohesive and elastic. The resultant *chapattis* come out soft, which isn't possible with millets (hard) that are gluten-free.

Options in PDS: For the rural poor, rice and wheat were aspirational foods. An expanded PDS has provided them access to these Fine grains, which is distinguished from coarse grains.

What steps have been taken to promote Millet Production?

First, In 2018, The Union Agriculture Ministry, declared millets as 'Nutri-Cereals', considering their 'high nutritive value' and also 'anti-diabetic properties'. 2018 was observed as 'National Year of Millets'.

Second, The UN General Assembly adopted an India-sponsored resolution to mark 2023 as the 'International Year of Millets'.

Third, The Government of India, through the revamped National Food Security Mission Operational Guidelines (NFSM), has laid **specific focus on 212 millet districts** in 14 states to provide **incentives to farmers** for quality seed production/distribution, field-level demonstrations, trainings, primary processing clusters and research support. The launch of 67 value-added technologies at the '**Centres of Excellence**' has been supplemented with the release of 77 high-yielding and 10 bio-fortified varieties.

Fourth, The US\$ 14-billion **Agricultural Infrastructure Fund (AIF)** has pushed investments across States to support millet entrepreneurs, **primary processing machines** for dehulling millets (removal of husk) and the formation of **millet farmer collectives**.

Fifth, The 'One District One Product' (ODOP) initiative has identified **27 millet focus districts**.

Sixth, The promotion of 10,000 FPOs' programme (US\$ 924 million) aims at the **millet producers' effective market participation** as member shareholders in these entities.

Seventh, The **Odisha Government's 5-year 'Millet Mission'** is supplementing the input as well as marketing needs of indigenous small and marginal farmers like the Dongria Kondhs across the state to grow millets. Similar initiatives have been launched by the State Governments of Karnataka, Maharashtra and Telangana.

Fast-emerging organic food brands are further **helping mainstream millet consumption**.

What further steps can be taken to enhance Millet Production?

Production, Processing and Storage: Millet cultivation should be encouraged because of its climate resilience, short cropping period, and capacity to thrive in poor soils, mountainous terrains, and with little rain. **Women millet farmers in rain-fed areas have to be empowered** through capacity-building and skills training.

Marketing: For sourcing quality millets as well as their steady marketing by entrepreneurs, there is a need for **linking small and marginal millet farmers to online marketing platforms**, such as the Electronic Agricultural National Market (e-NAM).

The setting up of farmer producer organisations (FPOs) can also enhance the millet producers' bargaining power in both the domestic and global markets. There is need to learn from the last-mile experiences of approximately 200 millet start-ups that have been incubated in the last few years by young agri-entrepreneurs.

Generating Awareness and Capacity Building: There is a need to engage with multiple and varied stakeholders, like doctors, chefs and nutritionists across the country. Both farmers and consumers need to be educated about benefits of Millets. To increase the demand for millets, researchers have to make a stronger case for their **nutritional benefits to consumers** worried about immunity and health, especially in the post-pandemic world.

There is also a need to develop solutions to improve the shelf life of millets – grains, processed grains, flours to make it comparable to competing crops.

Branding to Popularise: It is necessary to improve marketing strategies in order to increase consumption, as well as improve recipes in order to get millets onto people's plates and to make them a regular part of their diet. Companies like MTR that make ragi rava idli and ragi dosa breakfast mixes are a good start.

Government Procurement and Distribution: (a) The quantity of coarse grains procured for the Central Pool and distributed under the NFSA must be increased. The latest data on stocks with the Food Corporation of India (FCI) show only 2.64 lakh metric tonnes (LMT) of coarse grain was available in the Central Pool on November 1, 2022. In comparison, the stocks of rice, wheat, and unmilled paddy were 265.97 LMT, 210.46 LMT, and 263.70 LMT respectively; (b) Millets should be included in the **Anganwadi Midday Meal Scheme** or the PDS, in order to improve the nutritional status of pre-school children and women of reproductive age; (c) Only jowar, bajra, and ragi are covered under the Minimum Support Price (MSP) set by the Government, Other millets should also be included.

The inclusion of millet-based foods in international, national and state-level feeding programs will help to overcome the existing nutrient deficiencies of protein, calcium and iron in developing

Others Steps: (a) **International Fund for Agricultural Development (IFAD)** has helped to revitalise kodo and kutki farming in Madhya Pradesh's Dindori. There is need to replicate the Dindori model beyond one district and across other millets.

Many varieties of millets, suited to different agro-ecological zones have been These need to be promoted and diverse seed banks created to ensure the availability of planting material.

Conclusion

The cultivation of millet on a broad scale has the potential to assist farmers in safeguarding their livelihoods in the face of climate change. Widespread adoption of millets can also help address the lifestyle diseases like diabetes due to their nutritional value. Government has taken several commendable initiatives to promote millet production. The efforts should be scaled up to further enhance area under millet cultivation.

Syllabus: GS III, Major crops cropping patterns in various parts of the country.

Source: [Indian Express](#), [Indian Express](#), [AIM](#)

Functioning of the POCSO Act – Explained, pointwise

Introduction

The Protection of Children from Sexual Offences (POCSO) Act was enacted in June 2012 and came into force in November 2022. It has completed 10 years now. The Act has played an instrumental role in addressing sexual offences against children. Yet the frequency of sexual offences against children has risen alarmingly in the last few years. There have been several challenges in the implementation of the Act, including the rise in pendency of cases and low conviction rate. Vidhi Centre for Legal Policy has undertaken a detailed analysis of the working of the POCSO Act and has suggested measures to improve its effectiveness.

What is the background to the enactment of the POCSO Act?

Despite strong constitutional (Articles 15(3), 21A, 24, 45 etc.) and International Legal Frameworks towards strengthening child rights, **India's legal system lacked any dedicated provision against child sexual abuse** for long. The criminal law (IPC) failed to recognise sexual assault and exploitation of children as separate offences. The offences under IPC, intended to criminalise sexual offences against women, **fell short of addressing the complexities, social**

impact and mental impact of sexual exploitation of children. In *State of Punjab v Major Singh (1966)*, while addressing the appeal in a child sexual assault case where the accused was charged with section 354 of IPC, (assault with the intent to outrage her modesty), the High Court of Punjab acquitted the accused holding that a girl of seven and a half months does not possess womanly modesty, and therefore, the provision does not apply to the case. The Judgment was later overturned but showed shortcomings of the (then) existing provisions.

IPC provisions failed to criminalise the instances of sexual assault and molestation of boys. The nature of the criminal trial under the Code for Criminal Procedure, 1973 did not account for the special needs of child witnesses who were victims of sexual offences and the support they need to participate in the criminal justice process.

International Conventions on Child Rights

The Geneva Declaration of the Rights of the Child (1924)

- The Declaration listed **5 principles** directed toward the **development of children**. However, these principles considered children as an object of protection, **instead of holders of rights**. The Declaration **did not put any obligation** on the member States.

Declaration of the Rights of the Child (1959)

- It was adopted by the UNGA in 1959. The Declaration recognised the need for the protection of children against all forms of neglect, cruelty and exploitation.

International Covenant on Economic, Social and Cultural Rights (ICESCR) (1966)

- Article 10 recognised that children and young persons should be **protected from economic and social exploitation**. **Employment of children in work harmful** to their health, life or likely to hamper their normal development should be **punishable by law**.

United Nations Convention on the Rights of the Child (CRC) (1990)

- It was adopted by UNGA in 1989 and entered into force in 1990. It offered a **legally binding instrument** that recognised children's rights. It established a **Committee on the Rights of the Child** to monitor the progress of the member States in realising the goals envisioned by CRC. It recognised State parties' obligation to **protect children from all forms of sexual abuse and exploitation**.

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Several Reports of the Law Commission like **42nd Report** (1971, inclusion of a dedicated provision to penalise the offence of sexual abuse of children of all ages and sex), **156th Report** (1997, opined that the existing provisions against sexual offences were sufficient to address this issue) and **172nd Report** (2000) dealt with the issue. The 172nd Report recommended a major amendments to address the offence of child sexual abuse and exploitation including amendment to IPC Section 375 to make it gender neutral, increase penalty in case of sexual offences committed by near relatives and persons in position of trust, penalising touching any part of the body of an adolescent with sexual intent etc.

In 2003, the State Government of Goa enacted **Goa Children's Act** to promote child rights and children's development in the State and counter rise of child abuse rackets in the State.

In 2005, the Department of Women and Child Development prepared the Draft Offences against Children (Protection) Bill, to address different offences targeted against children, including sexual offences. The Ministry of Home Affairs suggested that **there should be separate comprehensive legislation** against child abuse.

In 2007, a Report '**The Study of Child Abuse**' published by the Ministry of Women and Child Development (based on ~12,500 children) found that **50.76% of children surveyed reported having faced one or more form of sexual abuse**, indicating seriousness of the issue.

In September 2010, the Ministry of Women and Child Development, prepared the draft Protection of Children from Sexual Offences Bill, 2010. After long discussions, the POCSO Act was passed by the Parliament in June 2012 and was enforced on the occasion of Children's Day on November 14, 2012.

What are the salient provisions of the POCSO Act?

Confidentiality of the victim's identity: The POCSO Act lays out the protocol for the media and imposes the obligation to conceal the name of the child victim, until the Special Court gives its permission for the information to be made public.

Gender-neutral Provisions: The Act doesn't make a difference based on the gender of the victim or the assaulter. Any person under the age of 18 is considered a child, and in some cases, the courts have even found women guilty of sexually abusing children.

Mandatory Reporting of Child Abuse Cases: Often families try to hide intra-family child abuse offences. In order for the POCSO Act to work properly, third parties who know or suspect these crimes must report them. These laws have been made based on the idea that children are weak and helpless and that it is society's job to protect their best interests.

Child-friendly Investigation and Trial: The POCSO Act lay down the procedure of investigation and trial which has been formulated keeping in mind the needs of a child. These include procedure for recording of statement, medical examination and designation of special child friendly courts.

Differentiate various sexual abuse: This act distinguishes between a wide variety of forms of sexual abuse, including non-penetrative and penetrative assault, and sexual harassment among others. The Act lays down stringent punishment for exposing children to, or using them to create Child Sexual Abuse Material (CSAM or child pornography).

What Revisions have been made to the POCSO Act?

The POCSO Act was amended in 2013 and 2018.

In 2019, concerned with rising cases of sexual offences against children and in response to coming to light of certain heinous sexual crimes committed against children, the Ministry of Women and Child Development introduced an amendment to the Act to deter offenders and ensure safety for children.

The amendment **increased the minimum punishment** for penetrative sexual assault from 7 years imprisonment to 10 years and aggravated penetrative sexual assault from 10 years imprisonment to 20 years.

It has also introduced the **punishment of the death penalty** for the offence of aggravated penetrative sexual assault.

The amendment Act has also **introduced offences for transmitting or propagating pornographic materials involving a child** and failing to destroy or report such pornographic materials.

What are the shortcomings in the working of the POCSO Act?

At the Trial Stage: The challenges at this stage include: **(a)** Lack of Special Courts in all districts; **(b)** Lack of Special Public Prosecutors for Special Courts; **(c)** Non-compliance with the timelines prescribed by the Act.

At the Post-Trial Stage: While final compensation may find a mention in the sentence order, interim compensation finds no mention in any orders of the Special Courts. Often the disbursal of compensation is delayed.

Hurdles in implementation: There are several hurdles: **(a)** The slow pace of designation of Special Courts; **(b)** Delay in investigation and filing of charge-sheets; **(c)** Non-appointment of support persons for child victims; **(d)** Delay in disposal of POCSO Cases.

The pendency of POCSO cases has reached 85% in 2020.

Pendency Rose Sharply In 2020 As Covid Hit

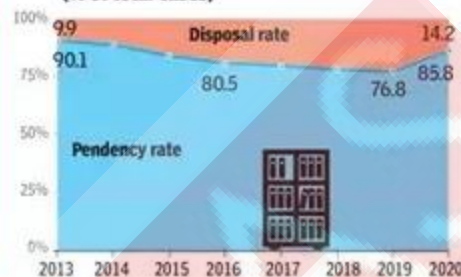
The total number of POCSO cases reported on eCourts rose steadily between 2013 and 2020. But though the share of pending cases in total POCSO cases had been declining consistently, there was a sharp increase in 2020, which could be attributed to the fact that the district judiciary did not function at its usual capacity during the Covid-induced lockdowns, leading to poor disposal. While the number of cases disposed rose between 2013 and 2019, the number of cases disposed fell sharply from 2019 to 2020.

Disposed and pending cases, 2013-2020

■ Disposed cases ■ Pending cases



Disposed and pending cases, 2013-2020 (% of total cases)



Source: The Times of India

Legal Aids Create Nuisance: Many legal aids add extra information to make the case stronger. Many times false information is added in the complaint. This only creates issues in the moving forward of the case .

Inadequate awareness about the POCSO Act: A 2020 study on Child Sexual Abuse Awareness and Attitudes by World Vision India found that only 35% children and 32% caregivers were aware about the POCSO Act. The awareness varied across urban, rural and tribal areas with tribal areas being the least aware.

Inadequate Training of Various Stakeholders: Child Protection System involves a lot of stakeholders like Private and Government Medical Practitioners, Juvenile Justice Boards, Law Enforcement Officials (Police), Judges, Public Prosecutors etc. All stakeholders should be aware of their own as well other stakeholders' responsibilities. At present, there is lack of adequate training for many stakeholders e.g., Private medical practitioners are usually the first point of contact for child victims but no mandatory training is provided to enable them to handle cases of child sexual abuse effectively.

Low Conviction Rate: Of the cases analysed by Vidhi Centre, only 14% cases resulted in conviction, while 43% cases resulted in acquittal. ~23% of cases were disposed of by virtue of transfers from one court to another. Since POCSO cases are supposed to be tried by the Special Court, the Report notes that transfers indicate "either administrative mismanagement or wrongful appreciation of facts by the police".

Acquittals Make Up Largest Share Of Outcomes

When a case is disposed of, its outcome can be recorded in various ways on eCourts. Of the roughly 1.12 lakh cases studied by Vidhi that were disposed of, there were 717 unique types of outcomes which were clubbed into eight categories: acquittal (43.4%), conviction (14%), transfer (22.8%), disposed (9.8%), allowed (2.5%), dismissal (1.1%), miscellaneous (3.1%) and unclassified (3.3%). For each conviction, there were three acquittals.

Overall disposal pattern in POCSO case



Note: Others includes disposed cases where the outcome is unknown, cases related to bail application and outcomes that could not be classified

Source: The Times of India

What steps can be taken to enhance effectiveness of the POCSO Act?

The Vidhi Center has provided several recommendations to improve the functioning of the Act.

Legislative and Policy Recommendations: (a) Reduce the age of consent from 18 to 16 years with adequate safeguards; (b) Hold public consultations with domain experts before making any substantive amendments to the Act; (c) Stipulate a time limit for consideration of disbursement of interim compensation to the victim.

Making POCSO Courts Functional: (a) Appoint **adequately trained Special Public Prosecutors** exclusively for POCSO courts where they have not been appointed. Progress for this can be monitored by respective High Courts; (b) Establish **Vulnerable Witness Deposition Centres**, with appropriate infrastructure, in all POCSO courts in accordance with the Supreme Court judgment in *State of Maharashtra v Bandu @ Daulat* and *Smruti Tukaram Badade v State of Maharashtra*; (c) Employ a **'hybrid' approach** for recording of evidence wherein the evidence of certain witnesses like doctors, forensic experts can be recorded virtually; (d) Ensure the appointment and continuous presence of support persons in every pre-trial and trial stage; (e) Create mechanisms to enable judges and prosecutors to have the required skill set to deal with the 'vicarious trauma' they experience when dealing with cases of heinous sexual offences committed against children; (f) Specifically train judges to write operational compensation to allow for timely and effective disbursement of compensation to victims.

Increasing awareness about the POCSO Act: (a) Include age-appropriate information about POCSO in school curriculum, including information on helplines like Childline; (b) Impart

POCSO awareness training to school staff. Include POCSO in the curriculum of students undergoing teaching courses like B.Ed, M.Ed etc

Capacity Building at All Levels: Conduct periodic integrated capacity building programmes for stakeholders with a focus on sensitivity training.

The Report also recommends to set up more Forensic Science Laboratories (FSLs) while improving the capacity and infrastructure of existing ones.

Conclusion

Despite its progressive provisions, the lacunae in the implementation of the POCSO Act has reduced its efficacy. The perennial problem of judicial pendency has affected the POCSO Special Courts with pendency rising, and time required to dispose cases increasing gradually. The advent of digital technologies and associated concerns (like child pornography) are going to make addressal of child abuse more challenging in future. The recommendations provided by the Vidhi Centre are worthwhile which, if implemented, can go a long way in addressing the issues with the functioning of the POCSO Act.

Syllabus: GS II, Welfare schemes for vulnerable sections of the population by the Centre and States and the performance of these schemes; Mechanisms, laws, institutions and Bodies constituted for the protection and betterment of these vulnerable sections.

Source: [Indian Express](#), [The Times of India](#), [The Times of India](#), [Vidhi Centre for Legal Policy](#)