

Forum IAS

7 PM COMPILATION

1st to 15th 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**

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

Topic:- Economic development

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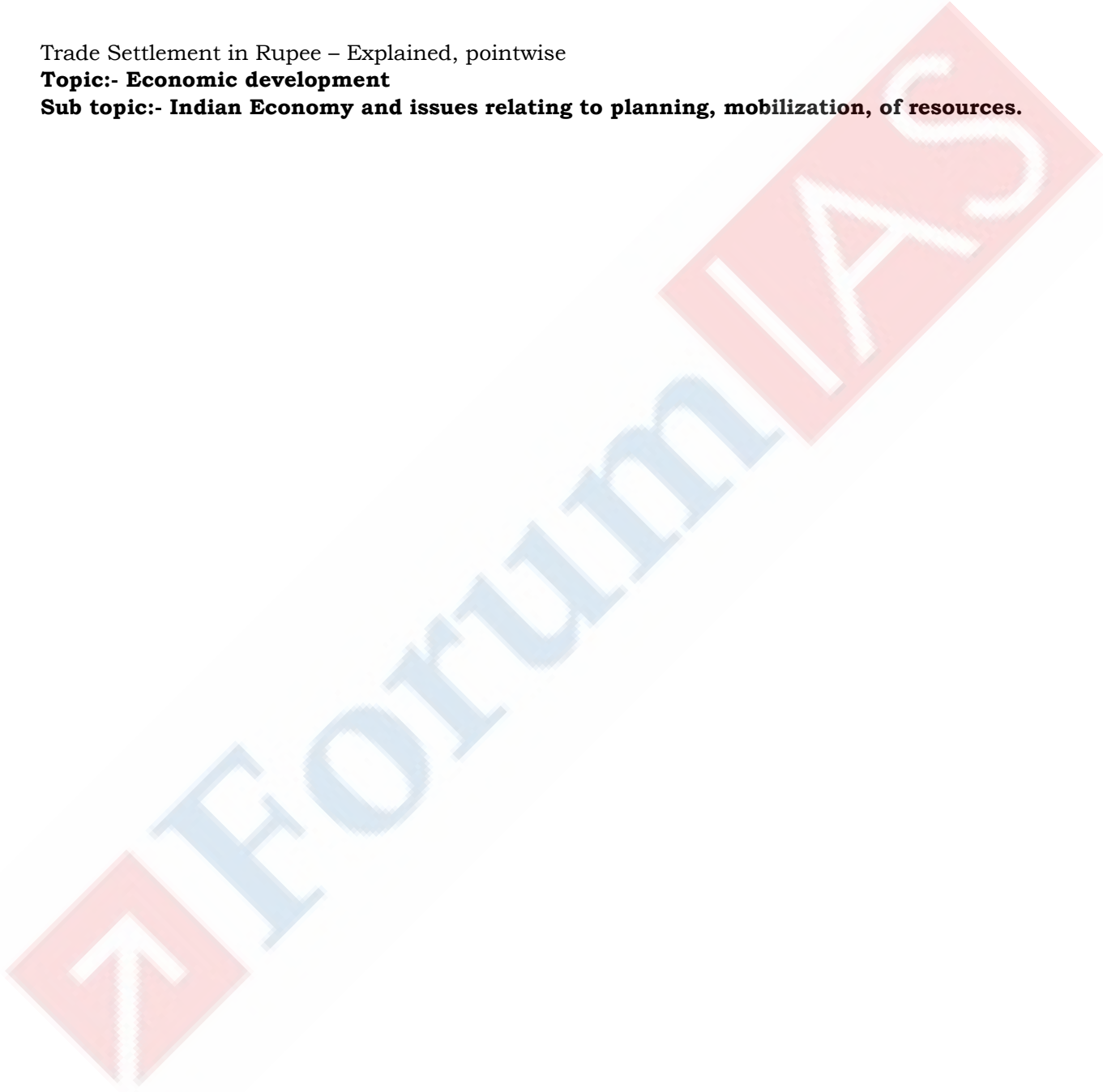
Topic:- Social Justice

Sub topic:- Issues relating to development and management of Social Sector/Services relating to Health

Trade Settlement in Rupee – Explained, pointwise

Topic:- Economic development

Sub topic:- Indian Economy and issues relating to planning, mobilization, of resources.



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?

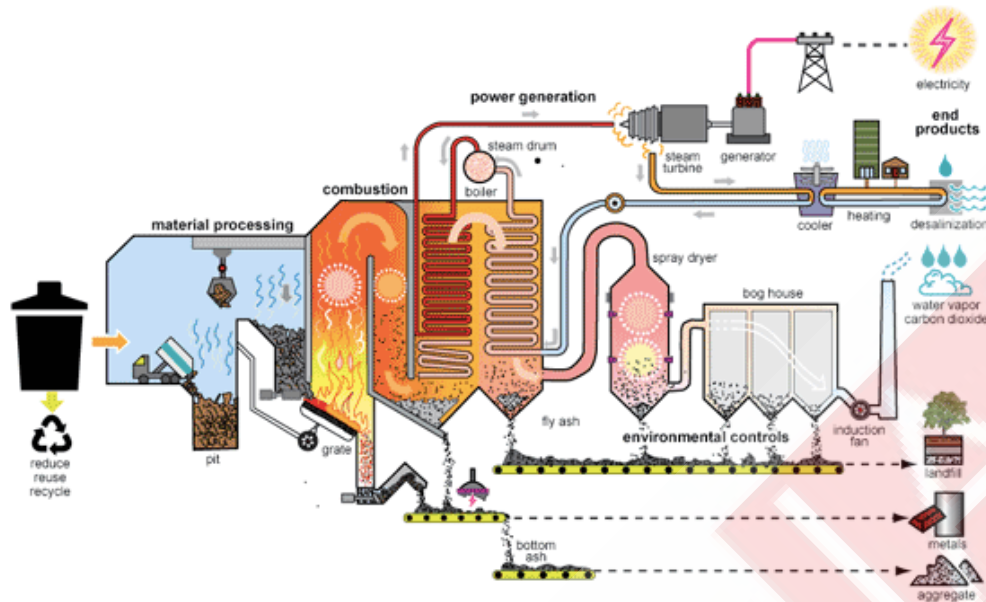
Per Day Waste Generation: In the Budget Session (2022), the Government informed the Parliament that the total quantity of solid waste generated in the country was 150,761 tonnes per day in 2019-20. According to a World Bank report (2018), India's per capita waste generation lies at 0.57 kg/day as compared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

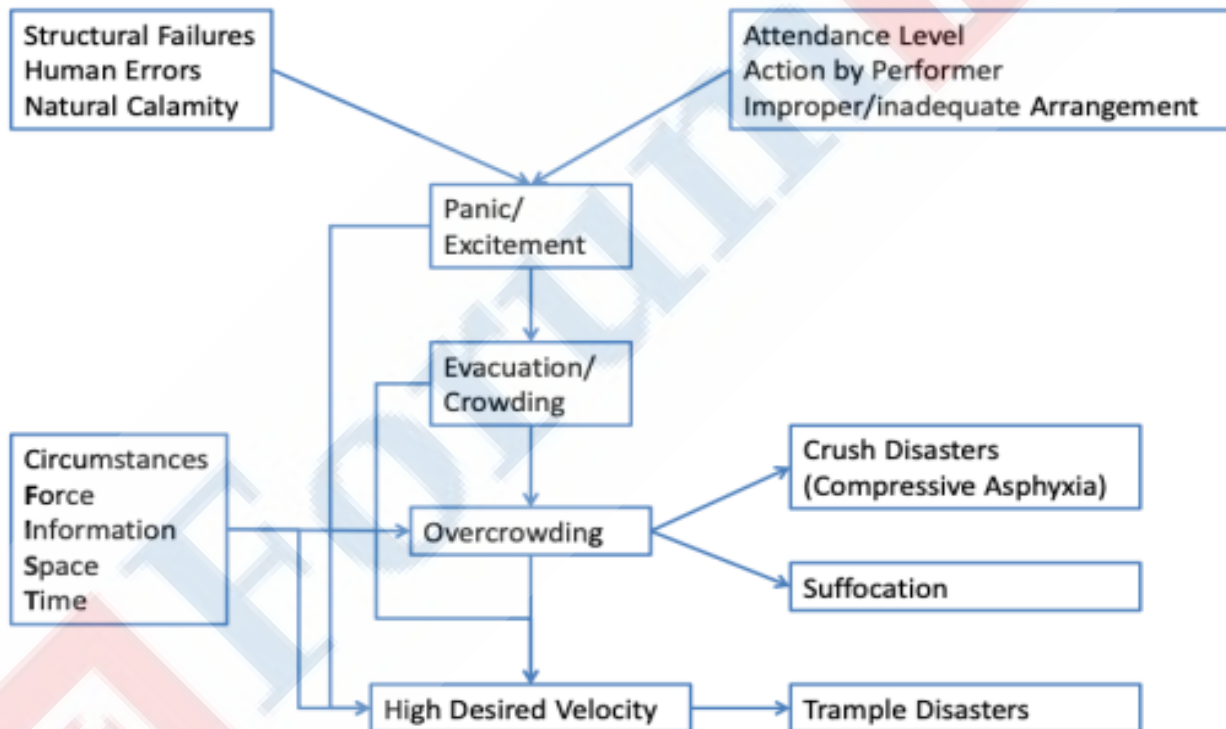
Fire/Electricity: This includes: **(a)** Fire in a makeshift facility or a shop; **(b)** Fire at illegal and unauthorised structure; **(c)** Wooden structure/ quick burning acrylic catching fire; **(d)** Non-availability of fire extinguishers in working condition; **(e)** Building and fire code violations; **(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.

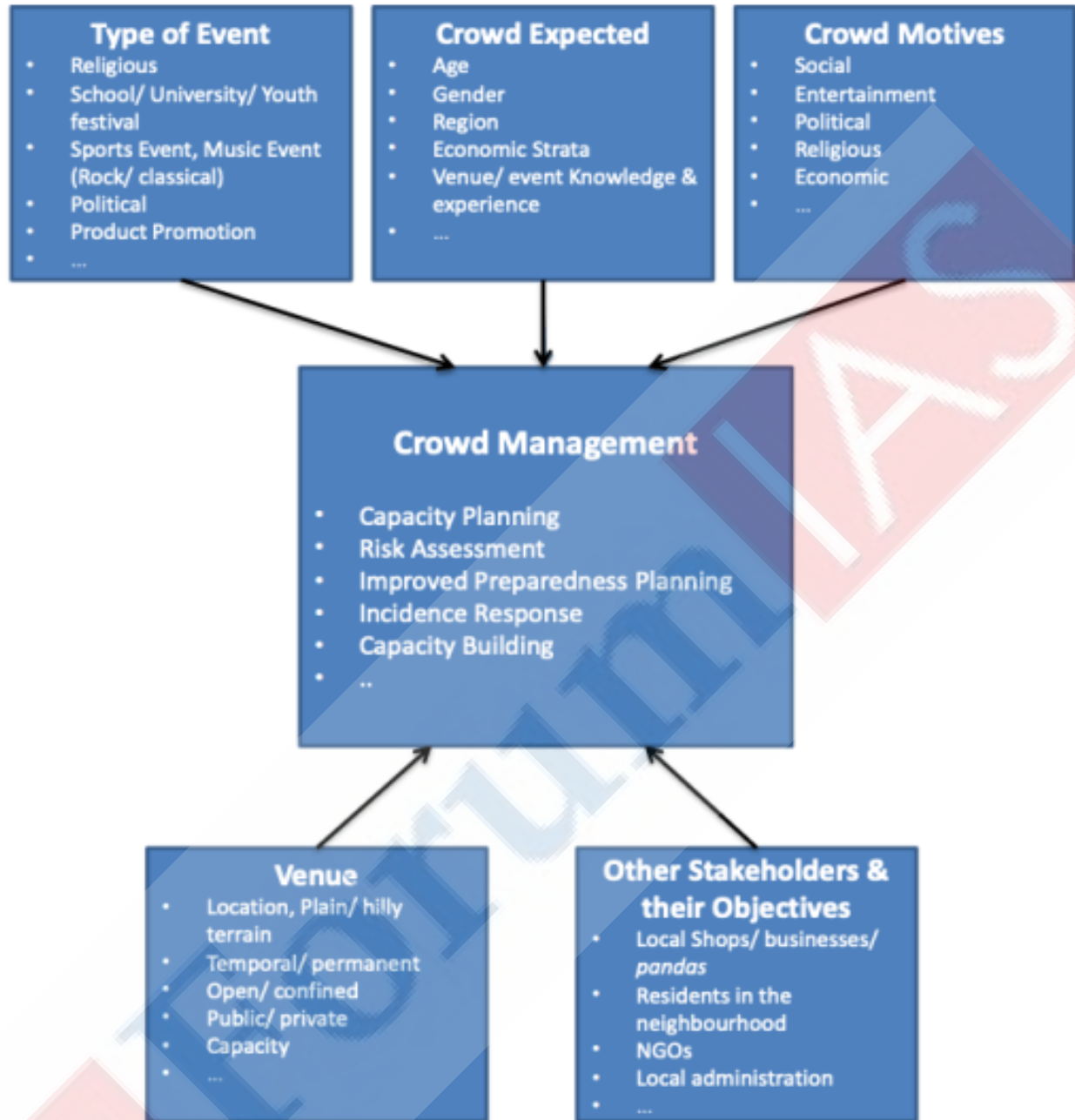
Lack of Coordination between Stakeholders: **(a)** Coordination gap between agencies (e.g. Police and District Magistrate; PWD, Fire Service, Forest officials, Revenue officials, Medical officers etc.); **(b)** Poor infrastructure (Plans on paper but no implementation due to lack of funds, resources, 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.

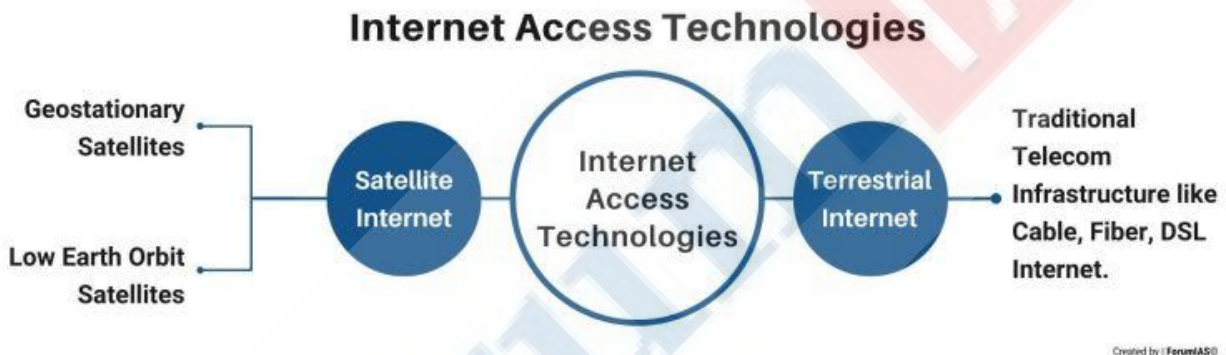
Satellite Internet: Working, Advantages and Challenges – Explained, pointwise

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.

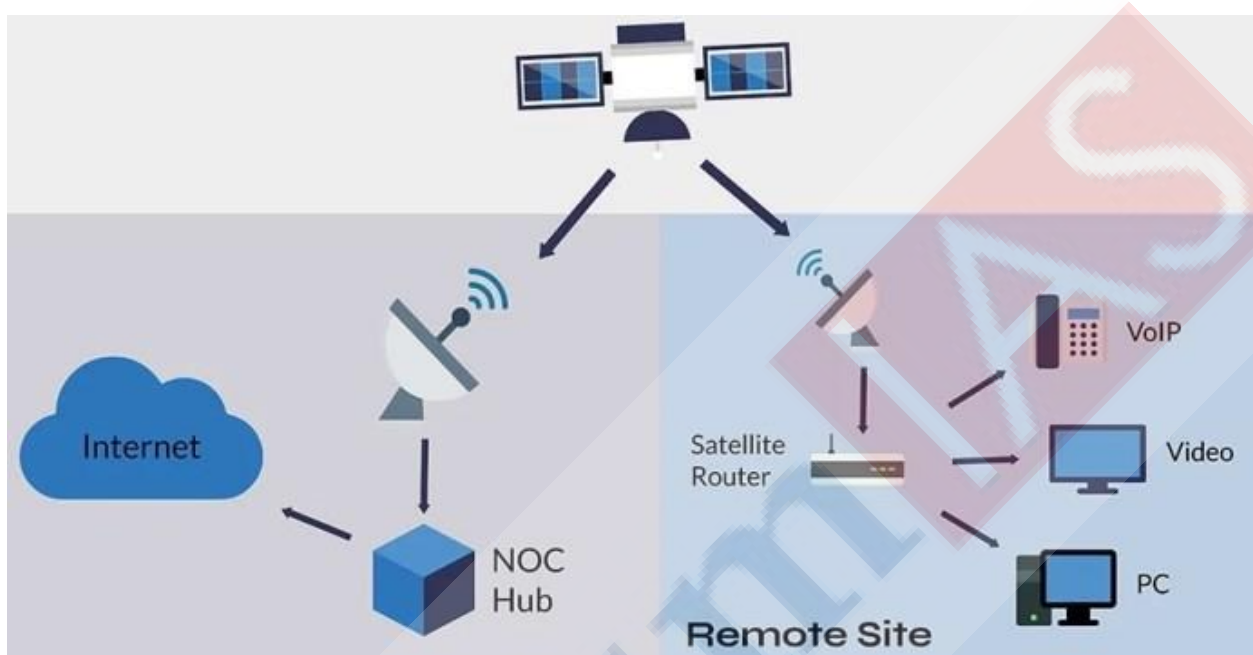
Other components of a Space Internet system include a **modem** at the user end which links the user's network with the transceiver, and a centralized **Network Operations Centre (NOC)** for monitoring the entire system. All network communication passes through the network's central hub processor. With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

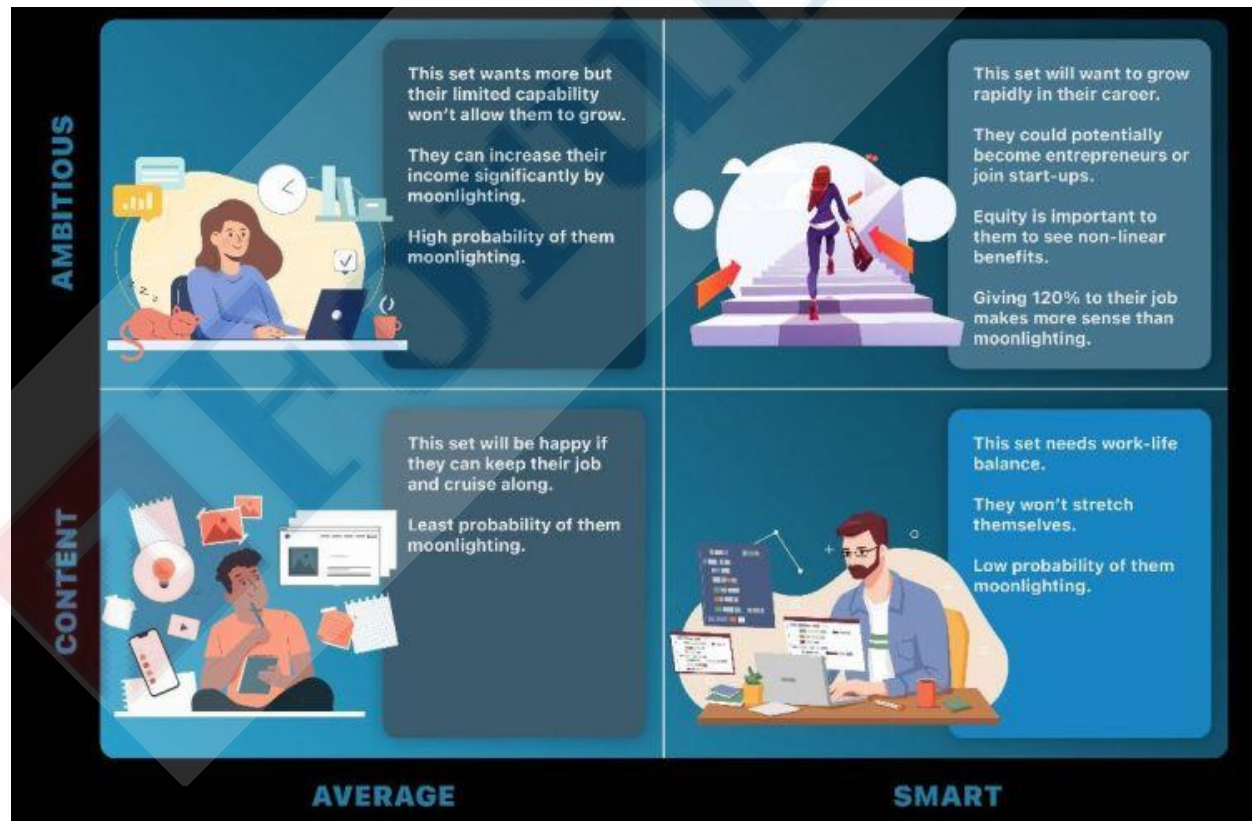
Technology: Technological tools like online video conferencing, cloud sharing, online workspaces (allowing sharing of information/documents) have **enabled remote working**. This facilitates moonlighting as the employees need not physically shuttle between different work locations.

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.



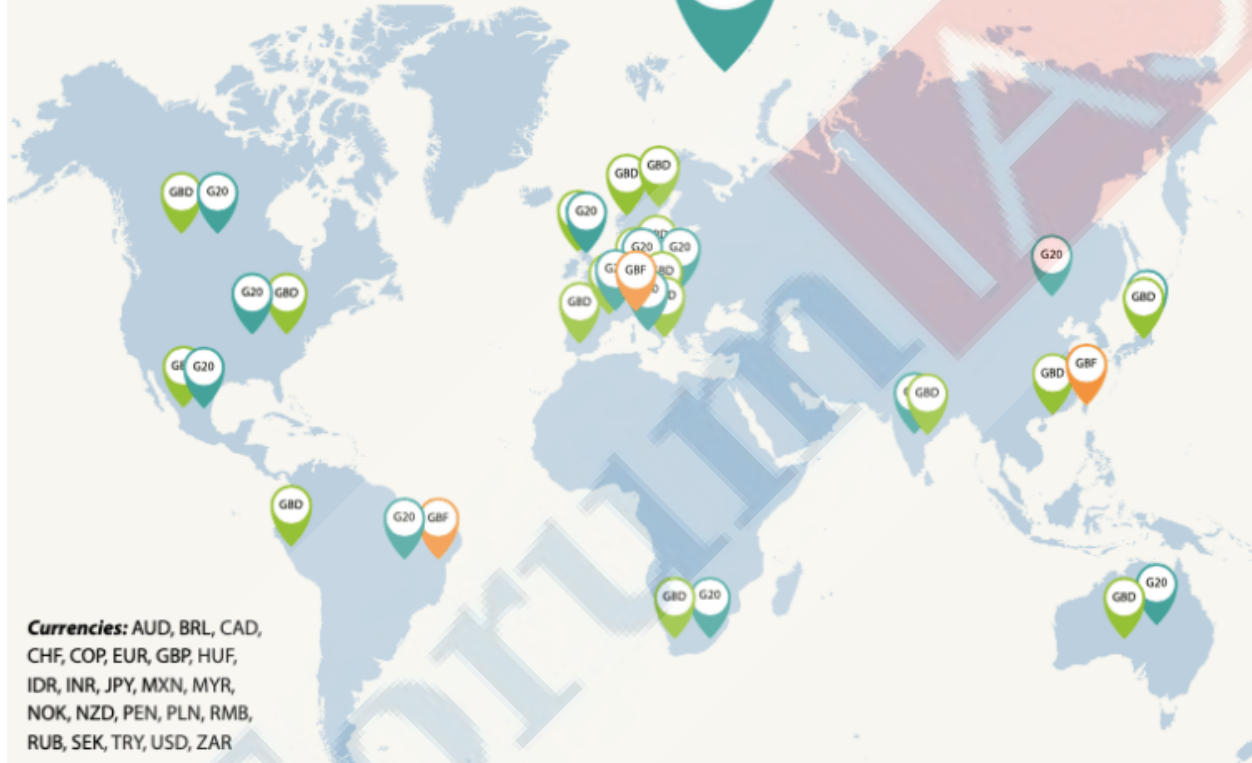
Green bonds issued for domestic and foreign investors: Australia; Austria; Canada; China; EU; France; Germany; Hong Kong, China; India; Italy; Japan; Mexico; Netherlands; Norway; Peru; South Africa; Spain; Sweden; the UK and the USA.



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.

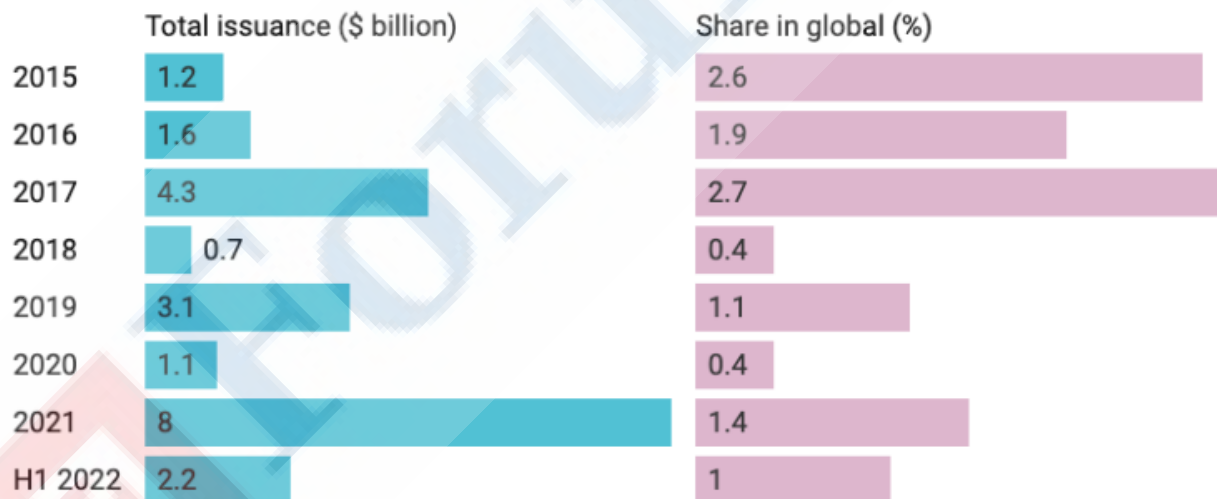
According to the Reserve Bank of India report titled "**Green Finance in India: Progress and Challenges**" until February 12, 2020, India had an outstanding debt of **US\$ 16.3 billion in green bonds**. Several Indian companies have issued such bonds. Most of them are listed on India INX, situated in 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

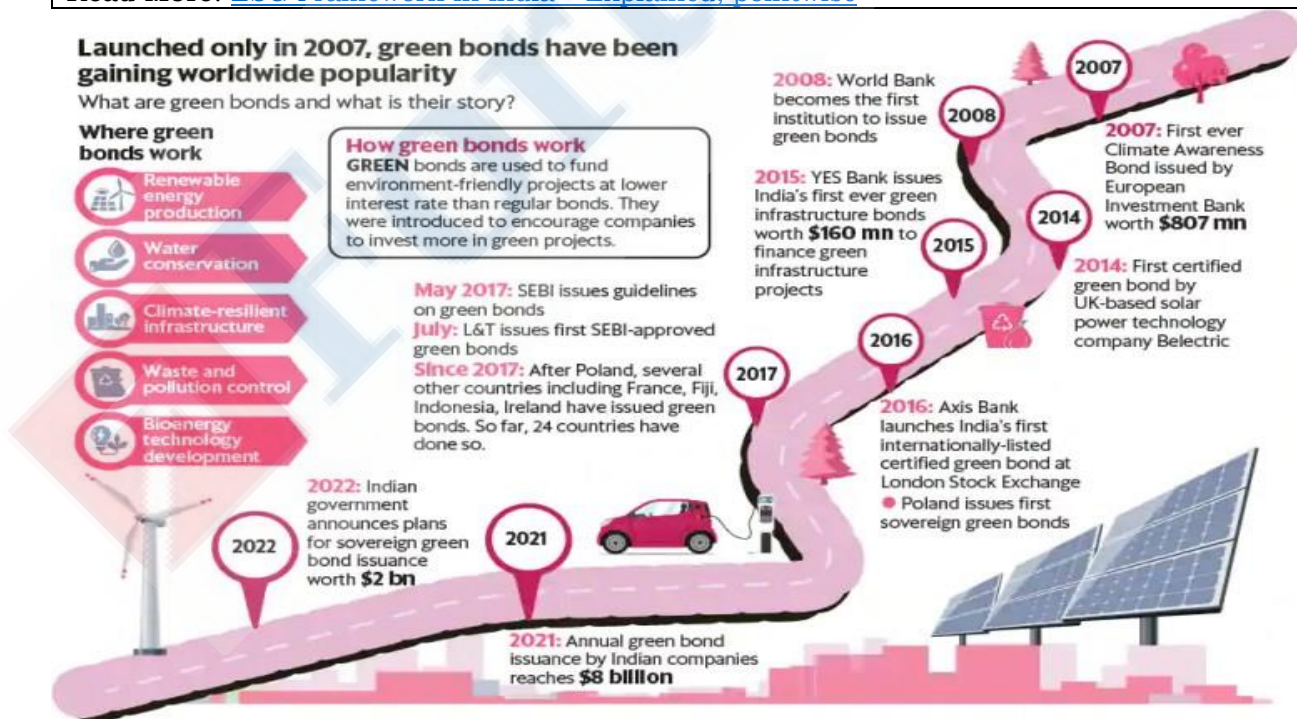
The benefits to investors include: **(a)** Comparable financial returns (in comparison to normal bonds) with the addition of **environmental and/or social benefits**; **(b)** Satisfy **ESG requirements** for sustainable investment mandates; **(c)** Enable direct investment in the **'greening' of brown 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](#)

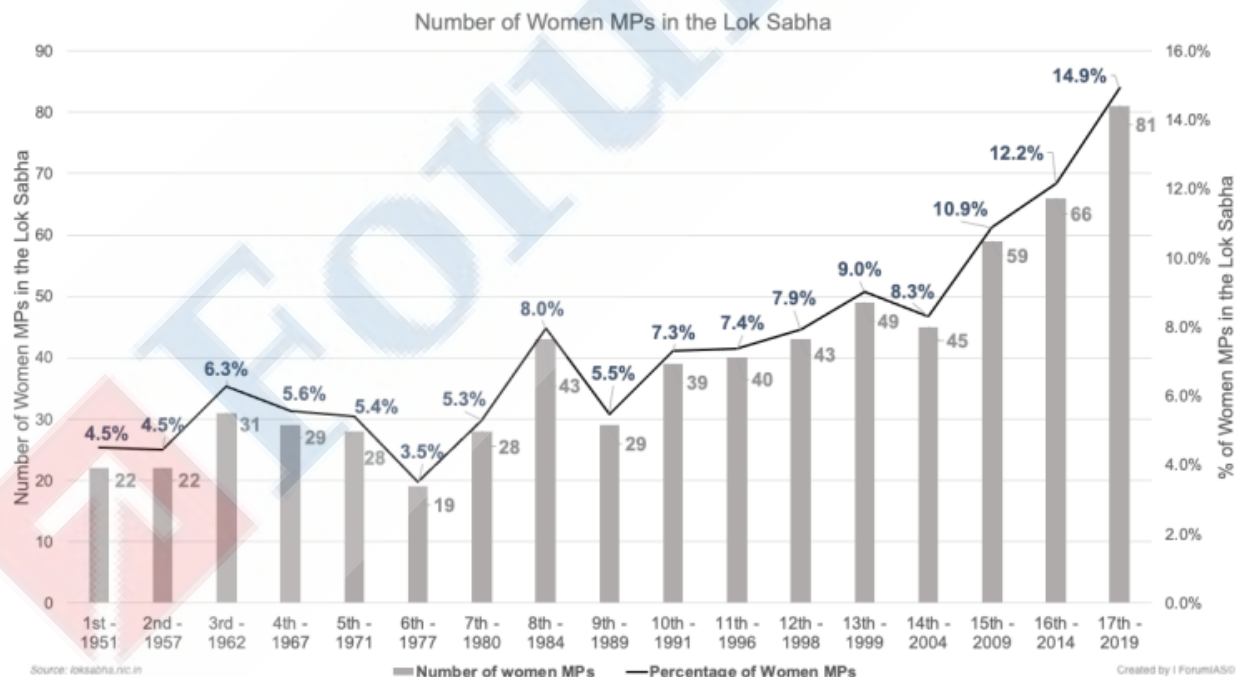
Women's Representation in Legislature – Explained, pointwise

Introduction

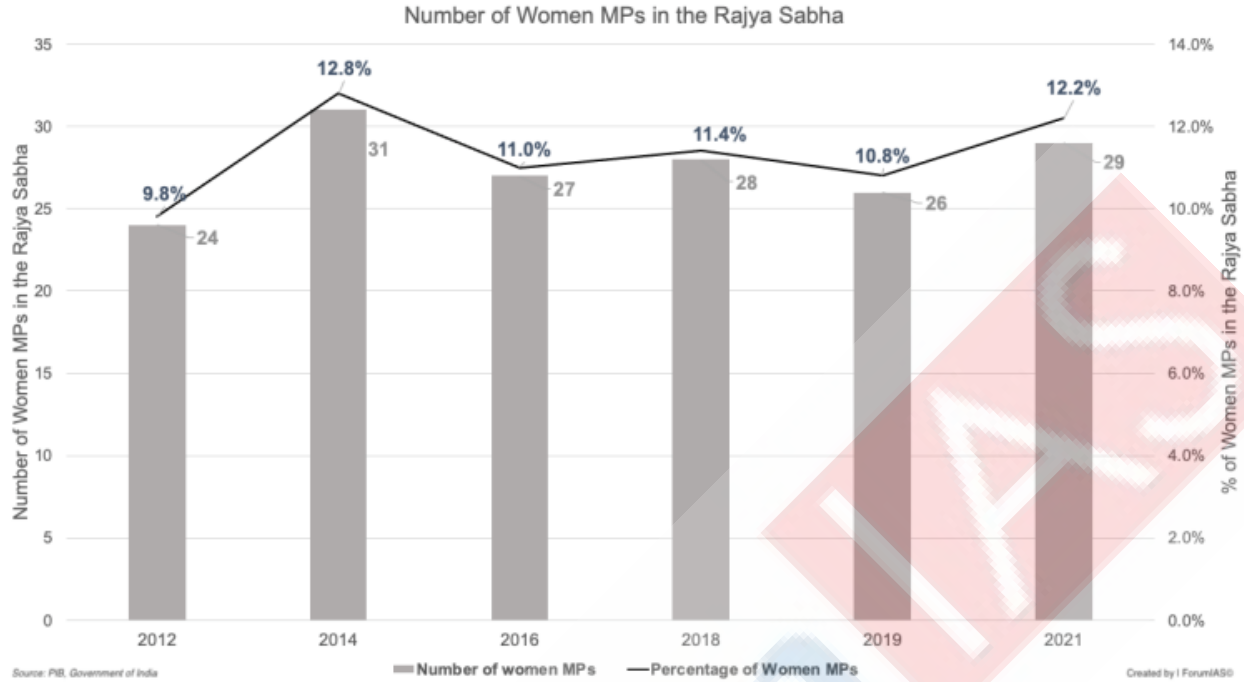
A PIL has been filed in the Supreme Court seeking reintroduction of the lapsed Women's Reservation Bill for 33% quota in the Lok Sabha and the State Legislative Assemblies. The Supreme Court has sought the response of the Union Government to the PIL in 6 weeks. Enhancing women's representation in the 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?

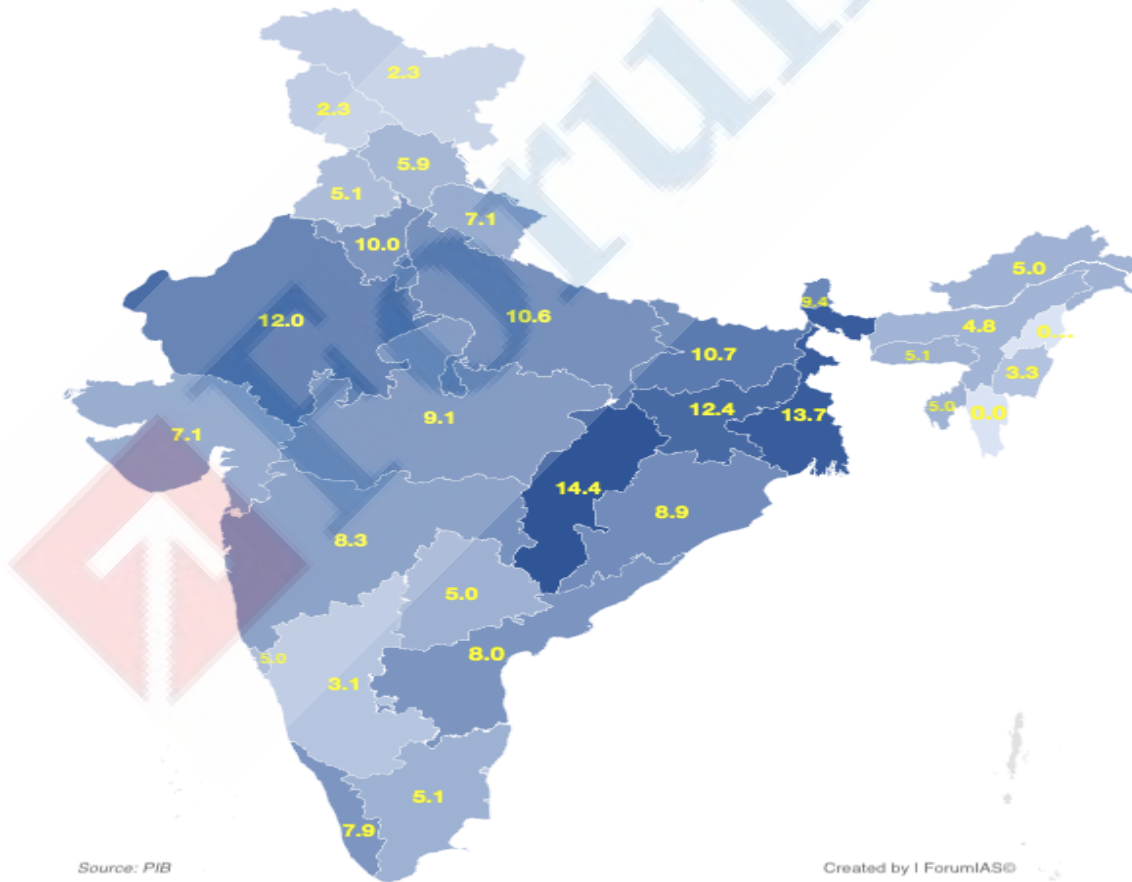
The number of women members in the Lok Sabha has shown a regular increasing trend in the recent times. The number of Women MP's in Lok Sabha has increased from 45 (8.3%) in 2004 (14th Lok Sabha) to 81 (14.9%) in 2019 (17th Lok Sabha).



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

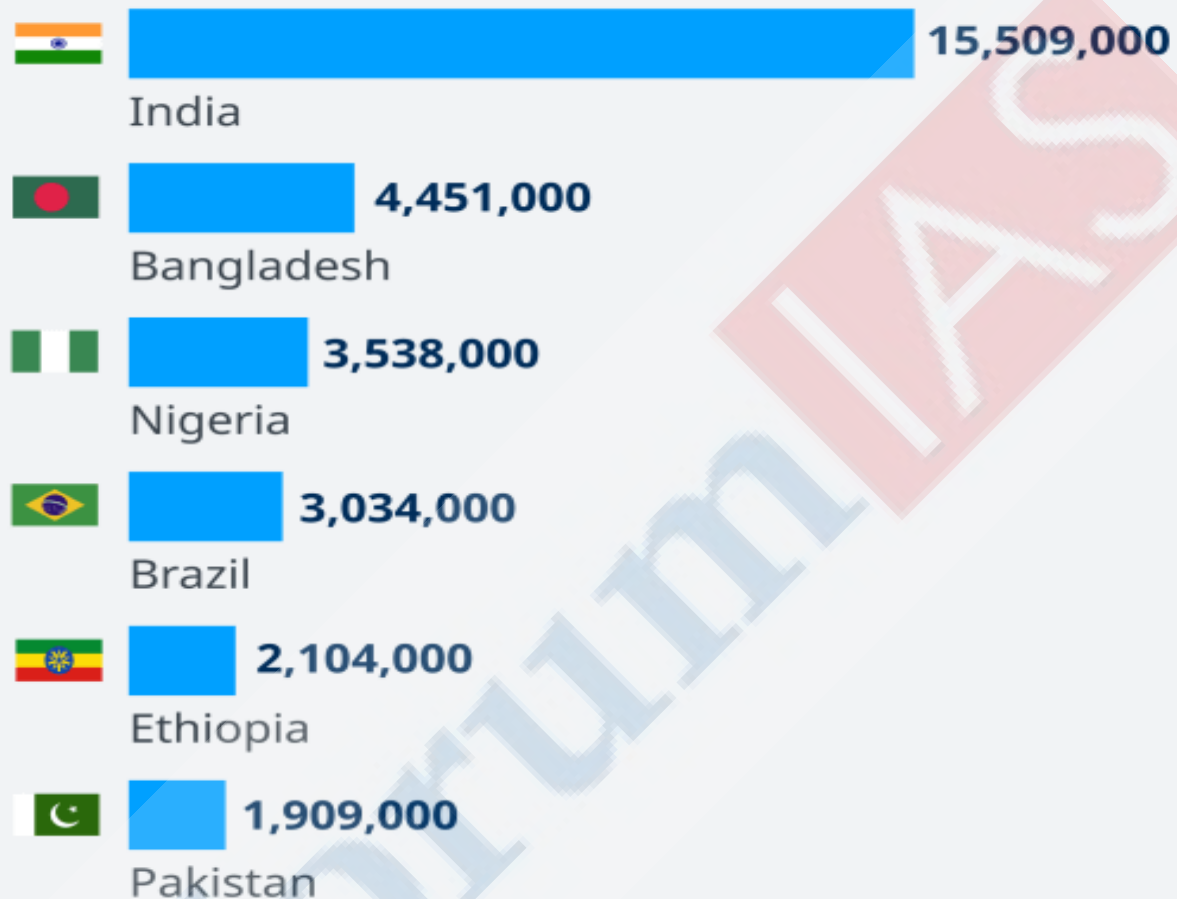
About 40 million girls ages 15-19 are currently married or in a union worldwide.

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

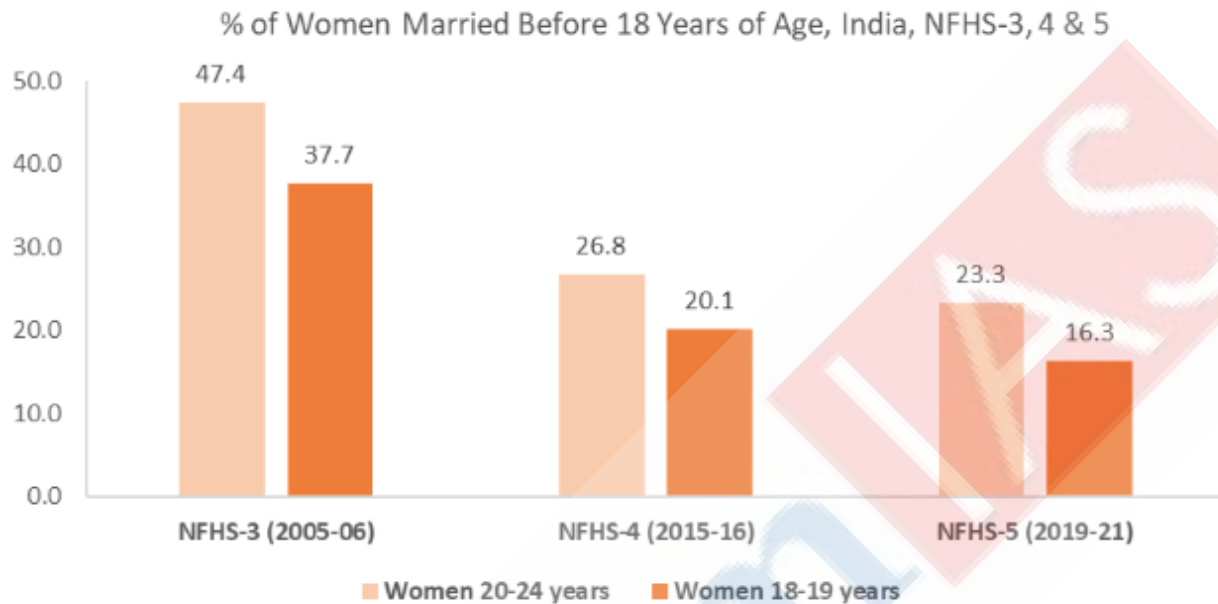
Source: UNICEF

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.

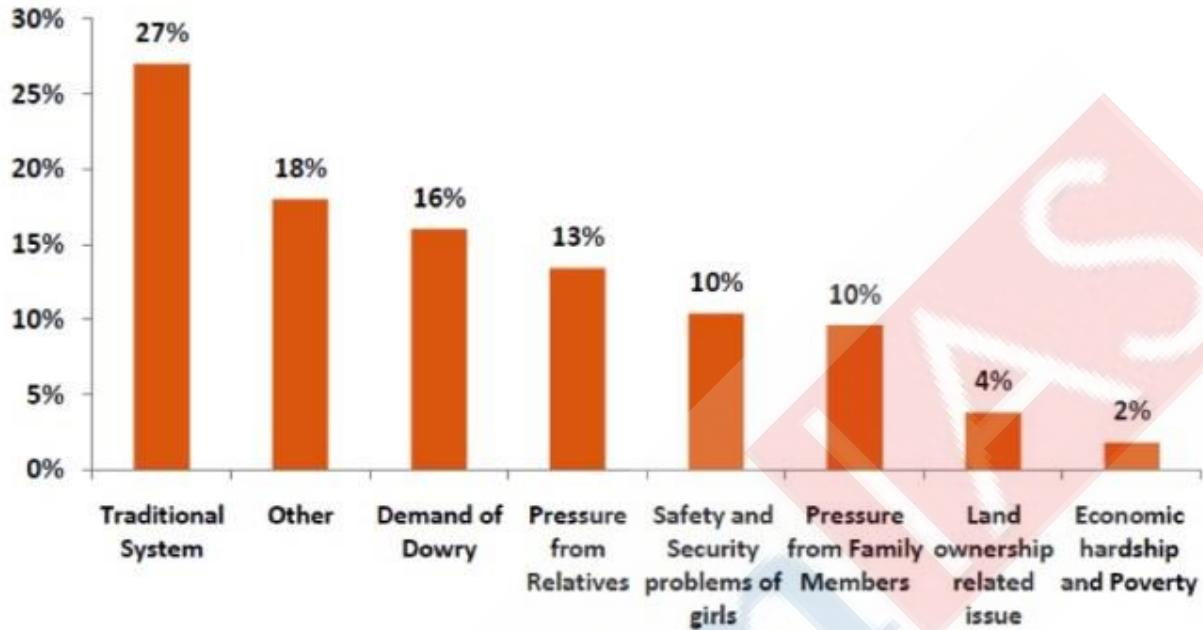
Customs and Traditions: In places where child marriage is common, families are put under a lot of social pressure to get their daughters married or face ridicule, disapproval, and family shame. Traditions like dowry put a lot of stress on the family because the parents have to give a lot of money, jewellery, 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**.

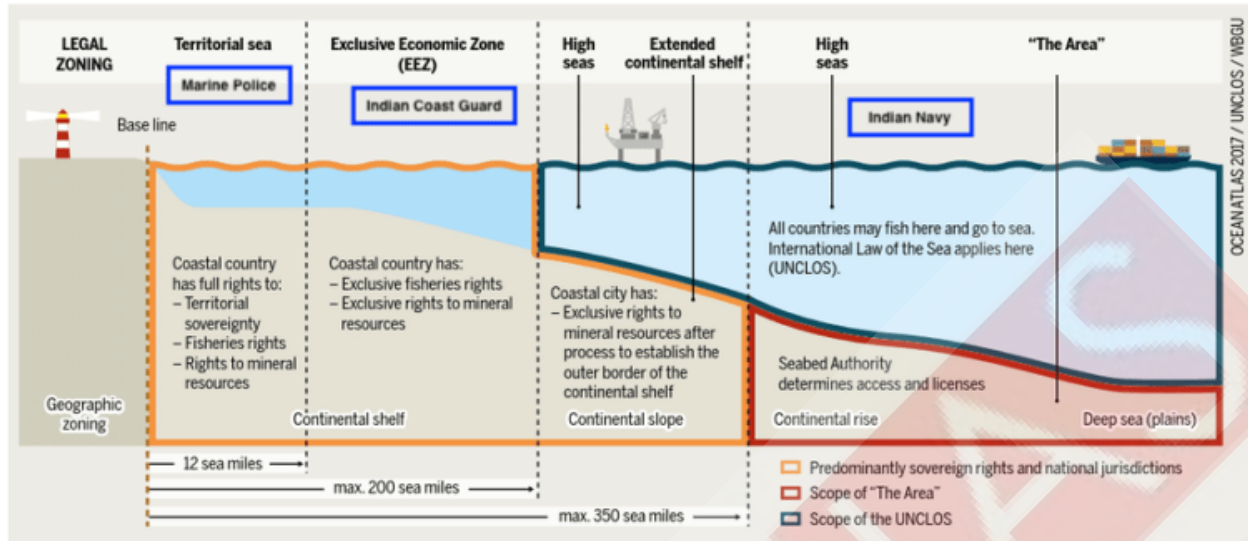
In addition, coastal regions are becoming preferred route for **arms and drug trafficking**. Ensuring **security of major shipping lanes** is another major challenge.

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

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

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

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

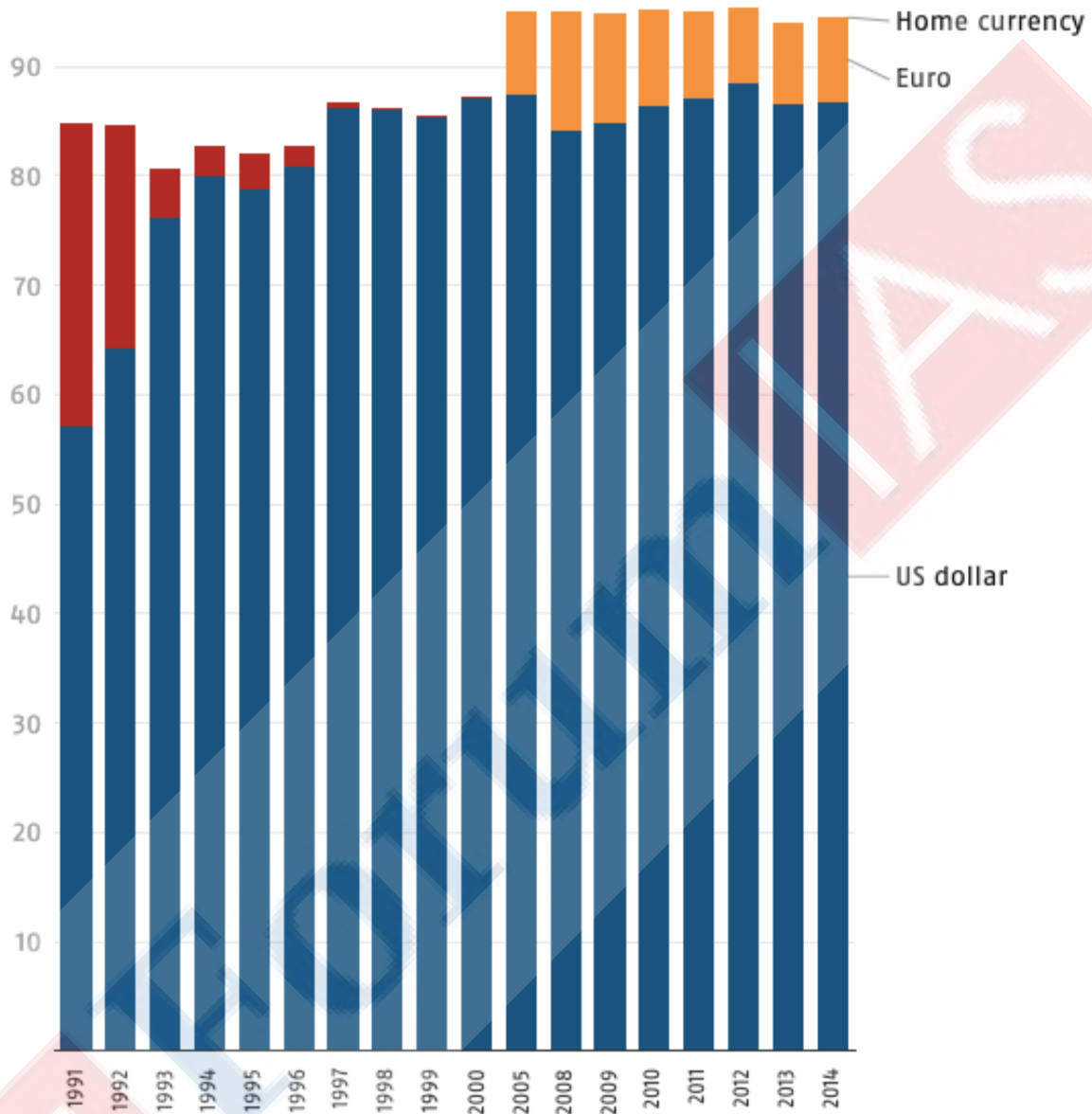
In July 2022, the RBI had issued a circular allowing international trade settlement in Rupees. The move had come amidst continuous fall in the value of Indian Rupee against the US Dollar. It is expected that the decision to allow Indian traders to settle imports and exports in rupees will ease the demand 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.

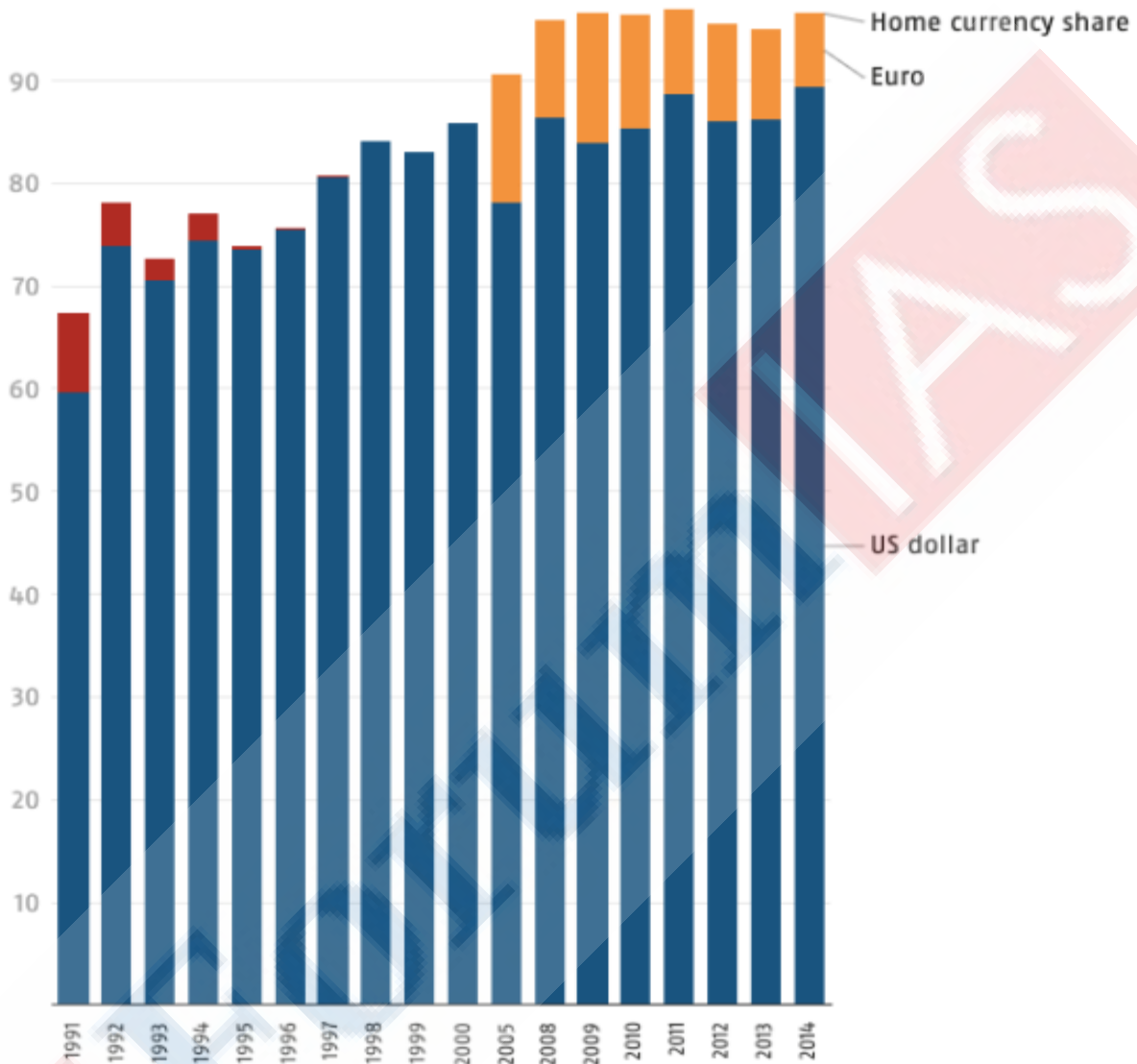
Dollar has been the main currency for India's exports

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.

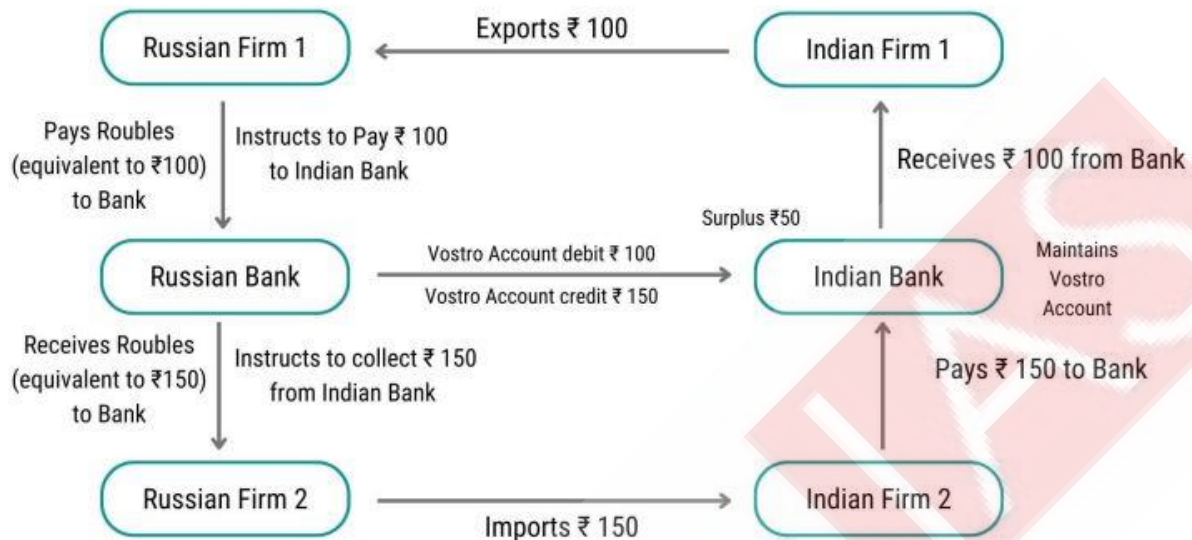
Internationalise the rupee: A **transparent and efficient framework** for conducting international trade transactions in Rupee is the first step towards the path of Rupee's acceptance as a global currency. The present status is far from Rupee becoming a reserve currency, nevertheless, this is a small 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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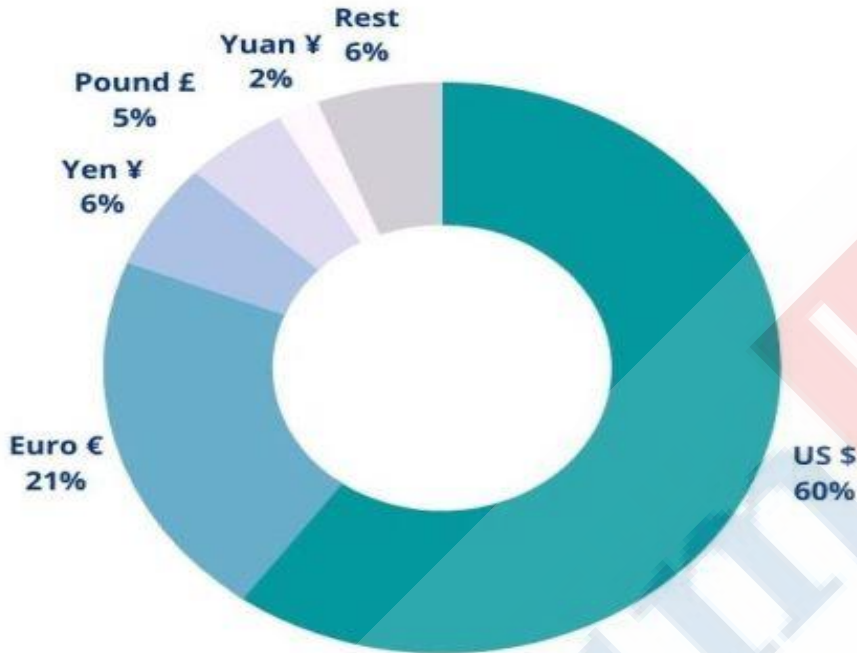
In the above simplified transaction, the Vostro Account has surplus of INR 50 as imports are worth more than exports. If there is persistent trade deficit the surplus will keep on accumulating. Due to capital restrictions, the Russian Bank will find it difficult to withdraw this surplus (hence can't 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

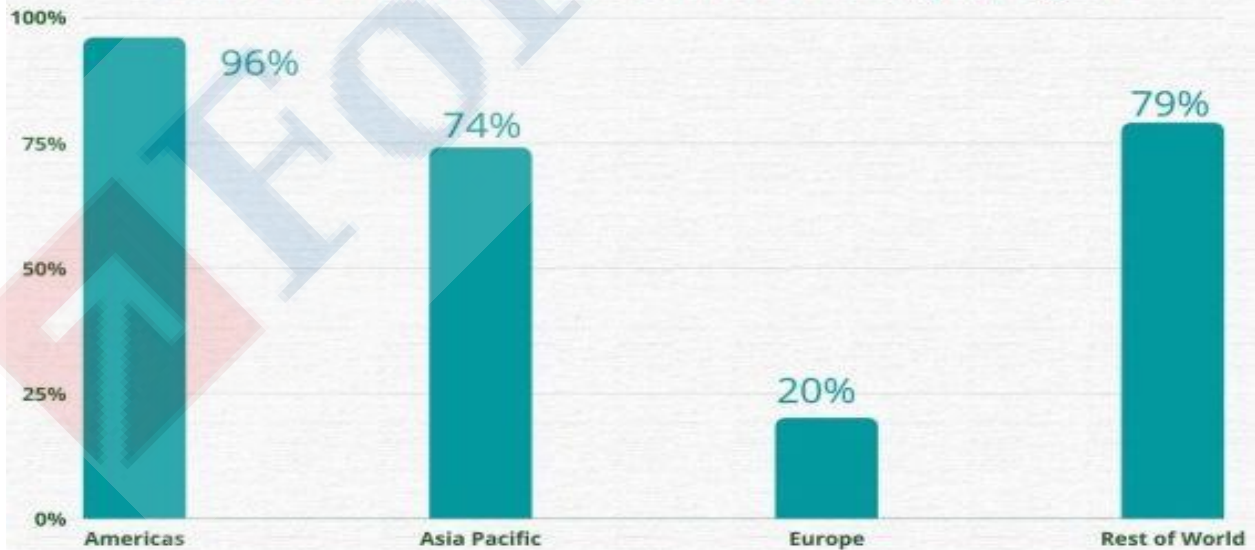
Share of Currencies in globally disclosed Official Foreign Reserves



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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](#)