



7 PM COMPILATION

July, 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

Five Years of GST: Achievements, Challenges and Way Ahead – Explained, pointwise

Topic:- Economic development

Sub topic:- Government Budgeting.

Issues in the Working of Anti-Defection Law – Explained, pointwise

Topic:- Indian Constitution and Polity

Sub topic:- Indian Constitution-features, amendments, significant provisions and basic structure.

[Yojana June Summary] Artificial Intelligence and Machine Learning – Explained, pointwise

Topic:- Science and Technology

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[Yojana July Summary] Policies on Scheduled Tribes – Explained, pointwise

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Issues with the SEZs and Proposed Changes under the DESH Bill – Explained, pointwise

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Quantum Computing: Uses, Challenges and India's Initiatives – Explained, pointwise

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[Kurukshetra July Summary] Jal Shakti Abhiyan and Traditional Knowledge in Water Conservation – Explained, pointwise

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Five Years of GST: Achievements, Challenges and Way Ahead – Explained, pointwise**Introduction**

The Goods and Services Tax (GST) has completed its 5th year today since its inception on 1 July 2017. The move towards 'one nation one tax' was one of the most historic indirect tax reforms in India. After concerted efforts of consensus building for over a decade, GST replaced 17 Union and State taxes and 13 cesses. 5 years down the line, the GST regime has been successful in attaining many of the intended objectives however some key challenges still remain to be addressed.

What is GST and its key provisions?

Goods and Services Tax (GST) is a **comprehensive indirect tax** on the manufacture, sale, and consumption of goods and services throughout India.

It replaced the existing indirect taxes levied by the Union and State Governments. It is a **single indirect tax for the whole nation**, which aims to make India one unified common market.

It is a **destination-based tax** applied on goods and services at the place where final/actual consumption happens. GST is applied to all goods other than crude petroleum, motor spirit, diesel, aviation turbine fuel, natural gas and alcohol for human consumption.

There are **four slabs for taxes for both goods and services**: 5%, 12%, 18%, and 28%. Different tax slabs were introduced because daily necessities could not be subject to the same rate as luxury items.

Besides, a cess is levied on the highest tax slab of 28% on luxury, sin and demerit goods. The collection from the cess goes to a separate corpus called **Compensation fund**. It is used to make up for revenue loss suffered by the state due to GST rollout.

States were promised a compensation for five years if their GST collection falls short of the 14 percent compounded revenue growth.

About the GST Council

The GST Council is the most important part of India's GST regime. The council is **responsible for recommending** rates of tax, period of levy of additional tax, principles of supply, the threshold for exemption, floor level and bands of taxation rate, special provisions to certain states, etc.

Article 279A of the constitution enables the formation of the GST Council by the President to administer & govern GST.

The Union Finance Minister of India is a Chairman of the GST Council. Ministers nominated by the state governments are members of the GST Council.

The council is devised in such a way that the Union Government has 1/3rd voting power and the States have 2/3rd. The decisions are taken by the 3/4th majority.

A mechanism for resolving disputes arising out of its recommendations is also decided by the Council itself.

What are the achievements of the GST regime in India?

Revenue Collection: The GST council has met 47 times so far and have taken measures which made Rs 1 lakh crore GST collection per month 'a new normal'. It is on the course to take the

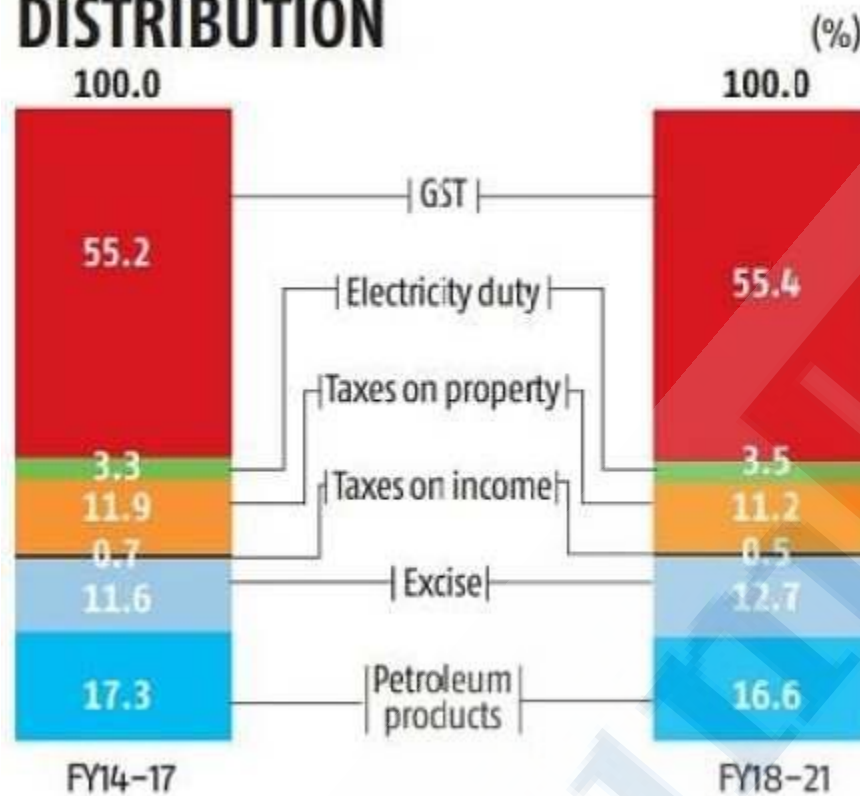
figure to Rs 1.4 lakh crore every month. The collections had touched a record Rs 1.68 lakh crore in April 2022. It had for the first time crossed Rs 1 lakh crore mark in collections in April, 2018.



The green trend-line indicates the upward trajectory of GST Revenues. During the initial 2 years, the revenues were lower because of implementation issues (system crashes, compliance problems, lower awareness). The external shock due to COVID-19 induced lockdown led to big dip in April 2020 (and to a lesser degree in June 2021). However, as the system stabilizes and compliance improves further, the collections are expected to settle at new normal upward of INR 1,40,000 Cr.

Faster Growth in State Revenues: In the five years (2017-18 to 2021-22) since the introduction of GST, the overall resource growth for States was 14.8% per annum, versus an annual average growth rate of 9% between 2012 and 2015. Thus, States appear to be better off. The Share of GST in States' revenue has marginally increased in 2018-21 compared to 2014-17.

STATES' OWN TAX REVENUE DISTRIBUTION



Note: GST for FY14-FY17 is proportion of taxes subsumed in GST, FY21 numbers are revised estimates
Sources: PPAC, RBI, and India Ratings

Source: Business Standard

Avoiding Cascading of Taxes: It subsumed 17 local levies like excise duty, service tax and VAT and 13 cesses. In the pre-GST era, the total of VAT, excise, CST and their cascading effect led to 31% as tax payable, on an average, for a consumer.

With regular adjustment of items in the various tax rate brackets, the **effective GST rate** had come down to 11.6% in 2019 from 14.4% at its inception.

Promoting Ease of Doing Business: The Government has been proactively issuing circulars and clarifications to clear doubts regarding taxation under GST and ensure ease of doing business. The GST Council, in its 47th meeting in Chandigarh, has decided to ease compliance for small taxpayers who supply through the e-commerce platform. Such suppliers, who make only intra-state supplies, need not seek GST registration. Provided their annual turnover is less than Rs 40 lakh in case of goods and Rs 20 lakh in case of supplies.

Improving Compliance: GST Network (GSTN) provides the technological backbone for the indirect tax regime. It has been using artificial intelligence and machine learning to dish out newer data and plug revenue leakages.

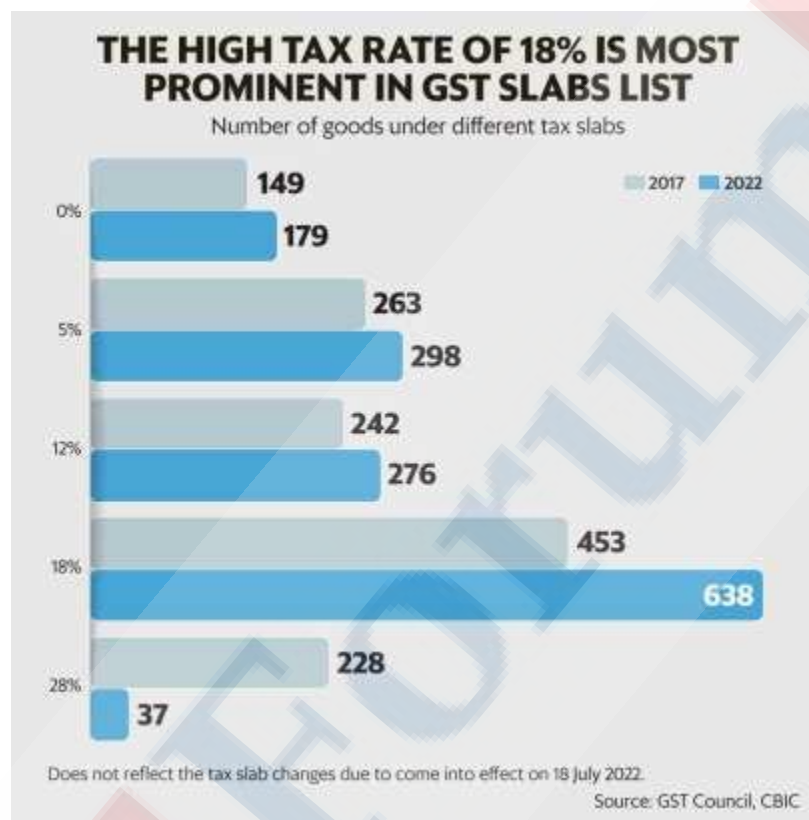
Compliance is also facilitated by: **(a)** Input credit availment linked to uploading of supply invoices; **(b)** Introduction of e-invoice for those with an annual turnover of more than Rs 20 lakh; **(c)** Filing of e-way bills by transporters for consignment worth more than Rs 50,000.

The GST-to-GDP ratio went up from 5.8% in 2020-21 to 6.4% in 2021-22, reflecting progressively improving compliance.

Center-State Relations: Since its inception, all but once decision of GST council have been through unanimous consensus. This shows an improvement in Co-operative Federalism in India.

What are the challenges associated with GST?

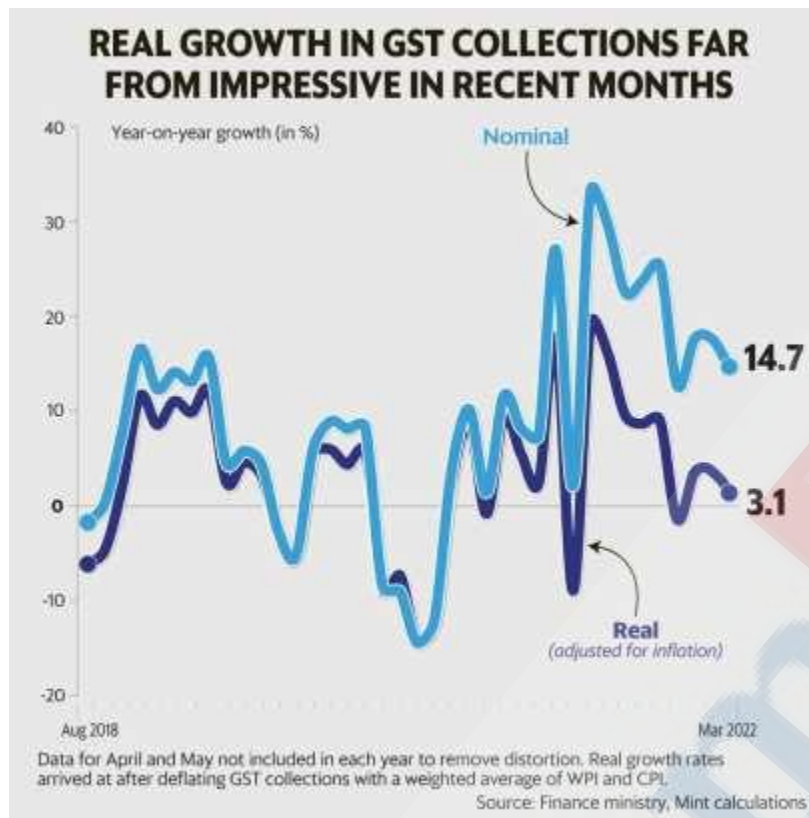
Multiple Tax Rates: Unlike many other economies which have implemented this tax regime, India has multiple tax rates. This hampers the progress of a single indirect tax rate for all the goods and services in the country. Most of the items fall in the high tax category of 18%. This acts as regressive, as it impacts the poorer section of the society.



Source: Mint

Further, **current inflationary concerns** have derailed the plans to tweak rates and GST slabs. The consumer price index-based inflation rate remained over 6% for the fifth month in a row and stood at 7.04% in May.

Inflation and Revenue Collections: Some economists argue that the current rise in GST collections is due to high inflation. The growth rate of GST collections in real terms (adjusted for inflation) is much lower e.g., the Year-on-Year growth rate in GST Collections in March 2022 was 14.7% in nominal terms, but only 3.7% in real terms (adjusted for inflation).

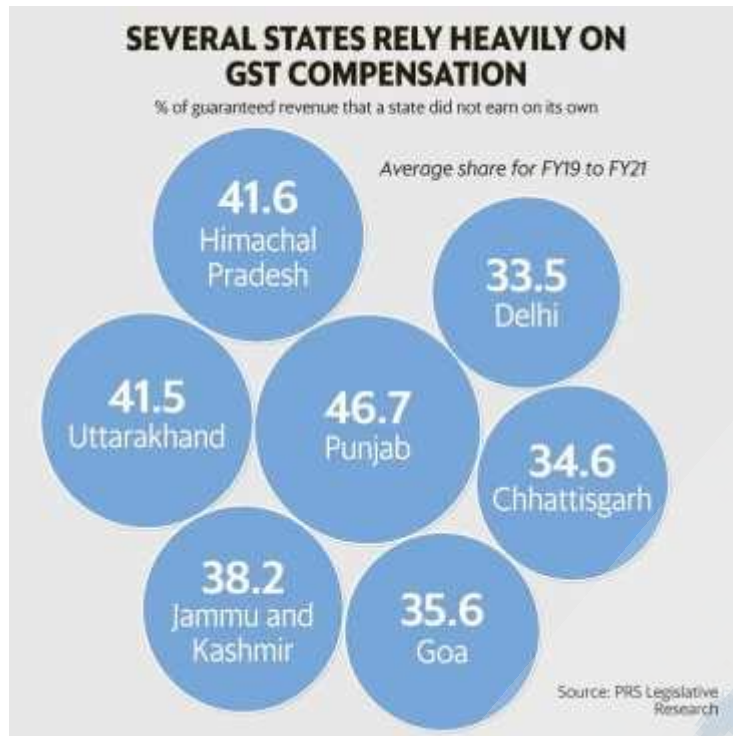


Source: Mint

Hardships for Taxpayers: There is unwarranted and excessive issuance of show cause notices for reconciliations of financial numbers, grant of registration, etc. that creates severe hardships for the taxpayers.

Lack of Coverage: With petrol, diesel, ATF outside GST, a large part of the economy is still not covered by the indirect tax regime.

Compensation to States: The GST (Compensation to States) Act guaranteed full compensation to States for the first 5 years of the GST if their revenues (after the implementation of GST) fall below 14% annual growth. A lot of States have been dependent upon the compensation. Since the clause is coming to an end, many States are demanding an extension. However, the Union Government appears to be reluctant. Moreover, the Union Government had **delayed GST compensation to the States** from 2019-20 when the economy started slowing down. It was paid in May 2022 after much delay.



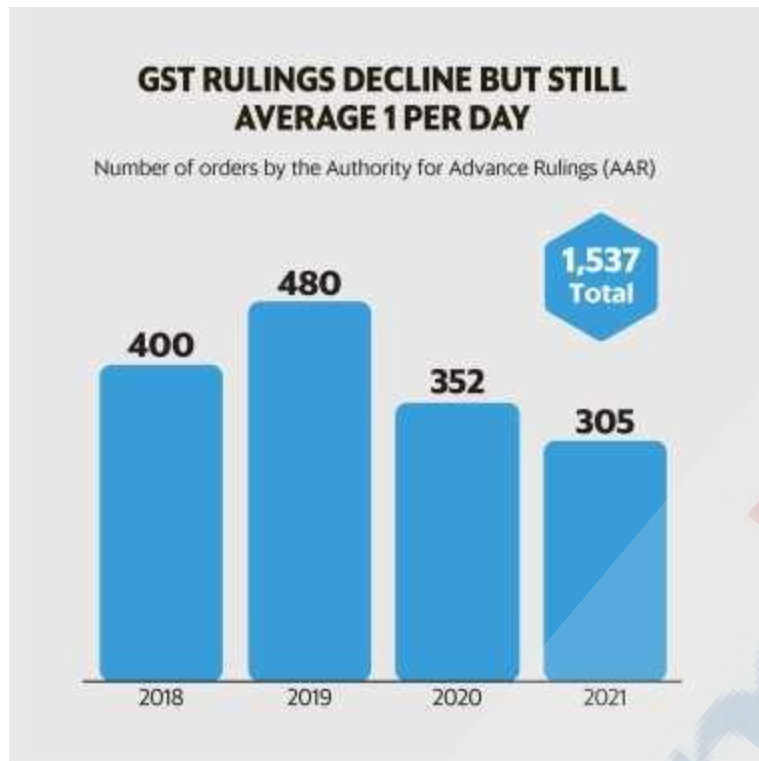
Source: Mint

Conflicting orders by AAR: The state-level Authorities for Advance Rulings (AARs) have given conflicting rulings in various cases on the nature of goods, which determine the tax slab they fall under. These relate to food items such as ‘papad’, fryums and other areas such as setting up a solar power plant, intermediary services, and so on.



Source: Mint

Additionally, although the number of disputes have shown a falling trend, the absolute number of rulings by AAR continue to remain high.



Source: Mint

Bogus or No receipts: Despite coming out with e-way bills and e-invoicing, genuine receipts are not being given in every segment of the economy. For instance, retailers of fast moving consumer goods (FMCG), and chemists buy their stocks from super stockists who, in turn, buy from distributors appointed by the companies concerned. Though these distributors are tracked by e-invoicing and e-way bills, in many cases, the super stockists sell the products to stockists who do not keep records and do not give receipts.

Technical glitches: Frequent technical glitches have led to, first, the suspension of forms GSTR 2 (a purchase return) and GSTR 3 (an input-output return), and then, their scrapping altogether. Technical glitches were so rampant that the launch of the e-way bills had to be suspended in February 2018 because the system could not bear the load. Unfortunately, the glitches crop up even now.

National Anti-profiteering Authority (NAA): The NAA was set up in December, 2017 to ensure that GST rate reductions were passed on by firms to consumers and there was no profiteering. But right from the outset, the process of imposing penalties on companies was criticised for the alleged lack of a proper methodology to ascertain profiteering. As of May, there are close to 400 cases pending with it.

What lies ahead?

First, the Governments can **consider bringing petroleum and electricity** under GST ambit that will help prevent cascading and ensure further uniformity.

Second, Most states have sought an extension to the compensation mechanism and a final decision is likely to be taken at the next GST Council meeting in Madurai in the first week of August.

Third, with emerging technology, there is emergence of newer asset classes like **the virtual digital assets (VDA)** or cryptocurrency. Hence, there is a need for clarity on whether they would be classified as supply of 'goods' or 'services' and what would be the tax rate on them.

Fourth, the Government can consider setting up of **Central authority to resolve conflicting AAR judgements** across states. It can also consider doing away with anti-profiteering provisions freeing businesses to set prices. The Chief Economic Advisor has advised setting up a complaint-redressal mechanism (a GST Tribunal).

Fifth, some checks can also be incorporated on system generated GST notices, so as to avoid any unnecessary harassment of taxpayers.

Sixth, the GST system has a rich database. The data can be analysed to provide useful insights about the health of the economy. It can provide information about trends in economic activity like (consumption patterns) or the level of the formalization of the economy. It can also help understand which areas or districts are thriving or lagging behind. The **data-driven insights** can help **prescribe appropriate policy interventions**.

Conclusion

While the GST administration has moved forward with great efficiency, it is still a long way to go to achieve the full potential of GST and make it a true 'good and simple tax'.

Source: [Business Standard](#), [Mint](#), [Mint](#), [Indian Express](#)

Issues in the Working of Anti-Defection Law – Explained, pointwise

Introduction

There has been a political turmoil in the State of Maharashtra over the last few days. The incumbent Chief Minister of Maharashtra had resigned on June 29, and the new Chief Minister was sworn-in on June 30. The new Government has to pass the floor test very soon. These political developments have brought the Anti-Defection Law into limelight once again. The law was enacted to eliminate political defections by the legislators. However, on numerous occasions the law has proved to be ineffective in curbing defections. Political experts are calling for amending the law to address the shortcomings.

What are the conditions for disqualification of a Legislator under the Constitution?

Article 102/191 of the Constitution of India lays down the grounds under which a Member of Parliament/Member of Legislative Assembly may be disqualified from being a member of the house.

The first part of Article 102 elaborates several instances when such a disqualification may be done: **(a)** If the person holds any undeclared office-for-profit under the Government; **(b)** If he is declared to be of unsound mind by a competent court; **(c)** If he is an undischarged insolvent etc.; **(d)** Voluntarily acquires the citizenship of a foreign State; **(e)** Disqualified by or under any law made by Parliament.

The Second part of Article 102 (and 191) gives authority to the **Tenth Schedule** of the Constitution to disqualify any member. It is this Tenth Schedule that is popularly known as the anti-defection law.

What is Anti-Defection Law?

The Tenth Schedule of the Constitution, commonly known as the Anti-Defection Law, was introduced in 1985 by **the 52nd Constitutional Amendment**.

'Defection' has been defined as, "To abandon a position or association, often to join an opposing group".

The anti-defection law was enacted to ensure that a party member **does not violate the mandate of the party**. In case he does so, he will lose his membership of the House. The law applies to both Parliament and State Assemblies.

It provides for the Presiding Officer of the legislature to disqualify any defector on a petition by another member. **Grounds for Disqualification:** (a) A member voluntarily giving up membership of the party on whose symbol he got elected; (b) A member violating a direction (whip) issued by his party to vote in a particular way or to abstain from voting; (c) A member who is independently elected joins any party; (d) Any nominated member joins any political party after the end of 6 months.

It also states that anyone disqualified under the Tenth Schedule would also be automatically disqualified from a ministerial post.

Exceptions: Under Paragraph 4 of the Tenth Schedule, disqualification on account of defection will not apply in case of a **merger of one party with another**. A valid merger occurs when **two-thirds of the party's total elected strength** agrees to the merger. Paragraph 3, which allowed the **use of a split (1/3rd members) to avoid disqualification** for defection, was **deleted by the Constitution (91st Amendment) Act, 2003**.

Paragraph 4(2) of the Tenth Schedule: Exception Clause

For the purposes of sub-paragraph (1) of this paragraph, **the merger of the original political party** of a member of a House shall be deemed to have taken place **if, and only if, not less than two-thirds of the members of the legislature party concerned have agreed to such merger**.

What is the significance of Anti-Defection Law in Parliamentary Democracy?

It is important to keep a **check on corruption/horse trading in parliament**, thus curbing the popular phenomenon of "*Aaya Ram Gaya Ram*" in the Indian polity of the 1960s. It prevents shifting of party allegiance by the members, which **provides stability to the government**.

It also **promotes party discipline** by ensuring that the elected candidates remain loyal to the party.

What are the issues in the functioning of the Anti-Defection Law?

Ambiguity over Merger Clause: The confusion is about the use of terms 'Political Party' and 'Legislature Party'. It is not clear whether political parties should merge amongst themselves before the merger of elected members (Legislature Party) of two distinct parties.

Note: A "legislature party" means the group consisting of all elected members of a House for the time being belonging to the political party. "Original political party" means the political party to which a member belongs

The merger envisaged in Paragraph 4 of the Tenth Schedule is a two-step process. Under this, one political party first merges with another, and then the legislators accept the merger. However, the second sub-paragraph (of Paragraph 4) says that a party shall be **"deemed" to**

have merged with another party if not less than 2/3rd of the members of the legislature party concerned have agreed to such merger.

The ambiguity is that whether the merger of the Legislature Party would be deemed to be the merger of the Political party as well. Legal experts from the Vidhi Center of Legal Policy argue that the clause seems to be **creating a “legal fiction”** so as to indicate that **a merger of 2/3rd members of a legislature party can be deemed to be a merger of political parties**. Even if there is no actual merger of the original political party with another party.

Partisan Role of Presiding Officer: The Speaker/Chairperson of the House is the key authority to take decisions on the disqualification issue. It is often seen that when the aggrieved party moves for disqualification, Speakers choose not to act, thus formalizing the defection.

No time limit to decide on disqualification: The Speaker/Chairperson is expected to give a prompt decision on disqualification under the Tenth Schedule; however no strict time limit has been prescribed.

In Manipur, for instance, 7 MLAs of one party had joined another party shortly after the 2017 Assembly election. One of the defecting member became a Minister as well. However, the Speaker **did not act on petitions to disqualify the Minister for over two years**. In 2020, the Supreme court used its extraordinary powers and removed the Minister concerned, from the Cabinet and barred him from entering the Assembly.

Defection through Resignation: In 2019, some members submitted resignation letters to escape disqualification proceedings. The Supreme Court ultimately ruled that the Speaker has the authority to verify if a resignation is voluntary and genuine, but it is constitutionally impermissible for the Speaker to take into account extraneous factors while considering the resignation. In other words, once it is clear that a member is resigning out of free will, the Speaker is bound to accept it.

Freedom of Speech of Legislators: One of the condition for disqualification is violation of whip issued by the Political Party to vote in a particular manner. Critics argue that this greatly limits the ability of a member to exercise her free opinion on the floor of the House on certain proposed legislations

Judgments Related to the Anti-Defection Law



- **Kihoto Hollohan vs Zachillhu (1992):** The Supreme Court held that judicial review cannot be available prior to the making of a decision by the Speaker nor at an interlocutory stage of the proceeding.
- **Ravi S. Naik vs Union of India (1994):** The Supreme Court had said “an inference can be drawn from the conduct of a member that he has voluntarily given up the membership of the party to which he belongs”.
- **Nabam Rebia vs Deputy Speaker (2016):** The Supreme Court said that the Speaker shall not decide the disqualification cases till the no-confidence motion against him is disposed of.
- **Girish Chodankar vs The Speaker, Goa State Legislative Assembly (2021):** The Bombay High Court held that the merger of two-thirds of Members of the Legislative Assembly is deemed to be the merger of the original party. (An Appeal has been filed in the Supreme Court).

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Why are there calls to scrap the Anti-Defection Law?

First, the law has **failed to curb defections in recent years** and lacks any deterrence effect on legislators. Further, re-election in by polls shows public's acceptance of defecting legislators.

Second, the **criticisms leveled against the exemption given to splits in political parties** – that it facilitated defection by groups – applies equally to mergers. The present law forbids individual defections but facilitates group defections.

Third, the MPs or MLAs are supposed to act as per party's command and not by their own judgement. This **undermines representative democracy** as they are unable to put forward the demands of people.

Fourth, the **scope of defection is very wide** as it is applicable on every legislation (violation of whip). It is also **applicable to members of the Rajya Sabha and Legislative Councils** which don't have a say in the stability of the government.

What should be the approach going forward?

First, the Supreme Court needs to adjudicate whether an actual merger of Political Parties is a condition precedent for the merger of Legislature Parties (i.e., the should the merger of Legislature Parties be deemed as merger of Political Parties).

Second, the **Speaker/Chairperson should give decisions within 3 months** as advised by the Supreme Court. Further, **an independent tribunal** can be created in the long run to decide cases under the Tenth schedule. This would effectively reduce partisan role played by the Speaker.

Third, the **Law Commission** in 1999 and the **National Commission to Review the Working of the Constitution** (NCRWC) in 2002 had recommended to **delete the clause related to merger** (Paragraph 4, Exception to Disqualification). Parliament should consider, debate and decide on the recommendations.

Fourth, the **Dinesh Goswami Committee** Report recommended that disqualification of a member should only be attracted in the event a member violates a whip on matters related to **Motion of Vote of Confidence**, a **No-confidence Motion**, **Money Bill** or a **Motion of Vote of Thanks to the President's address**.

Conclusion

As defections continue unabated and Speakers refrain from acting on these developments based on their political loyalties, there is a strong case to reform the anti-defection law. Redefining the merger clause, shifting the adjudicatory power from the Speaker to some other credible authority and even dispensing wholly with the law are measures that jurists have suggested. Additionally the Parliament must re-consider the clause related to the whip to ensure that the Right to Freedom of Speech of the Members of Legislature is not impacted.

Source: [The Hindu](#), [The Hindu](#), [The Hindu](#)

[Yojana June Summary] Artificial Intelligence and Machine Learning – Explained, pointwise

Introduction

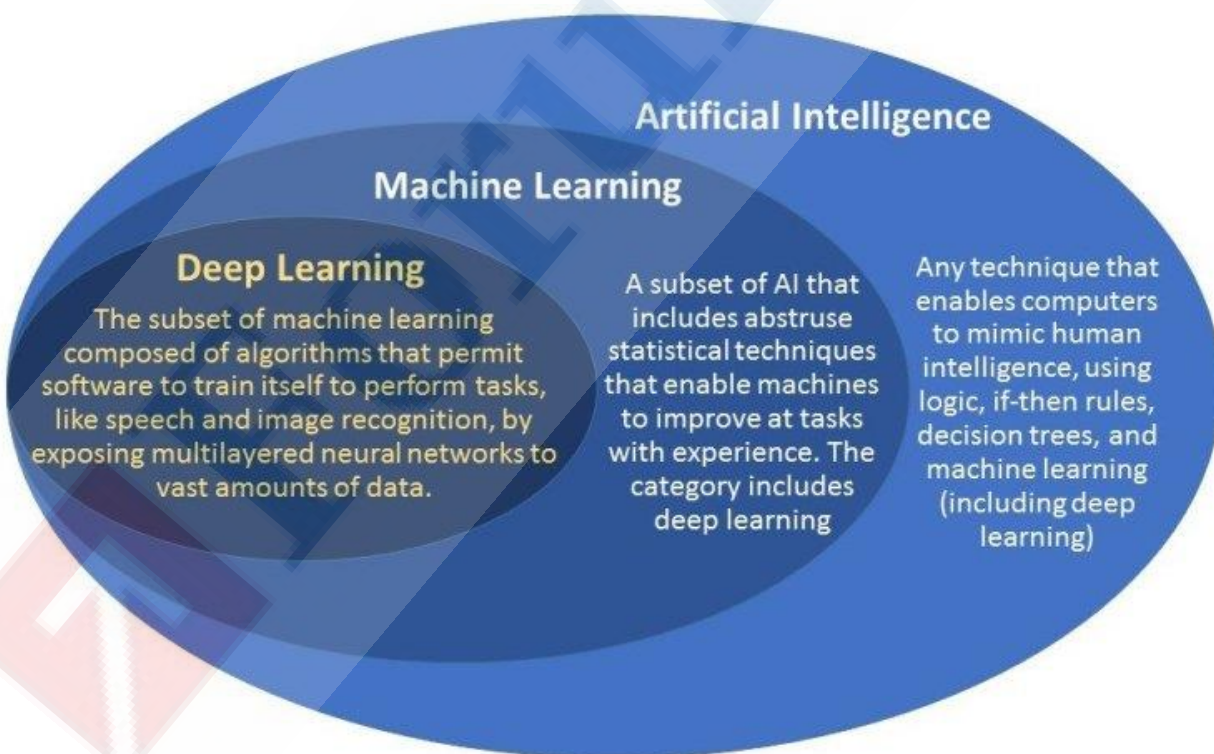
Industry 4.0 is set to usher an era of technologies that will completely alter the way of human interactions with the surroundings. Artificial Intelligence, Machine Learning, IoT, 5G, Augmented Reality, Big Data, Nanotechnology, Robotics, and 3D printing are transforming the operational, functional, and strategic landscape across various industries. In India, both private and public enterprises and the Union and State governments are investing in multiple AI use cases: from manufacturing to services. This shows that AI would be a critical catalyst for achieving robust economic growth in future. Hence focus must be on building an ecosystem which ensures affordability, accessibility and usage of AI by the masses.

What is Artificial Intelligence?

Artificial Intelligence (AI) is a way of making a computer, a computer-controlled robot, or software perform human-like tasks. The term was coined in 1956 by John McCarthy. It refers to the ability of machines to perform **cognitive tasks** like thinking, perceiving, learning, problem solving and decision making.

There are two subsets under the umbrella term AI: Machine learning and Deep learning

Machine Learning involves the use of algorithms to parse data and learn from it. This enables making a determination or prediction. Deep learning is a technique for implementing Machine Learning.



Source: IBM

What is the Scope of Applications of Artificial Intelligence?

Agriculture: Application of AI in agriculture can help in increasing crop yield by providing real-time advisory, early detection of pest attacks, prediction of crop prices, precision farming etc. e.g., Berlin-based agricultural tech start-up PEAT has developed a deep learning application called Plantix. It identifies **potential defects and nutrient deficiencies in soil**.

Healthcare: It can be used in diagnosis, treatment design, imaging diagnosis, early detections of disease outbreaks, robot assisted surgeries, virtual nurse assistants etc. e.g., Researchers at an Oxford hospital developed AI that can diagnose scans for heart disease and lung cancer.

Education: It can be used for developing tools for customized learning, interactive and intelligent tutoring systems, and predicting tools- for example predicting dropouts.

Urban planning: It can be used for optimizing infrastructure in cities, service delivery, crowd management, cyber security, public safety and water and waste management e.g., in Kerala, engineers have developed **sewer-cleaning robots** to put an end to manual scavenging.

Transportation: It can be used in developing AI-based traffic management systems including sensors, CCTV cameras, automatic number plate recognition cameras, speed detection cameras, and signalized pedestrian crossings.

Energy: AI can be used in energy system modelling, predictive analysis, demand and infrastructure management, renewable management, building energy efficient buildings, etc. e.g., a programme EWeLiNE developed in Germany can work as an early-warning system for grid-operators to assist them in calculating renewable-energy output over the next 48 hours using AI.

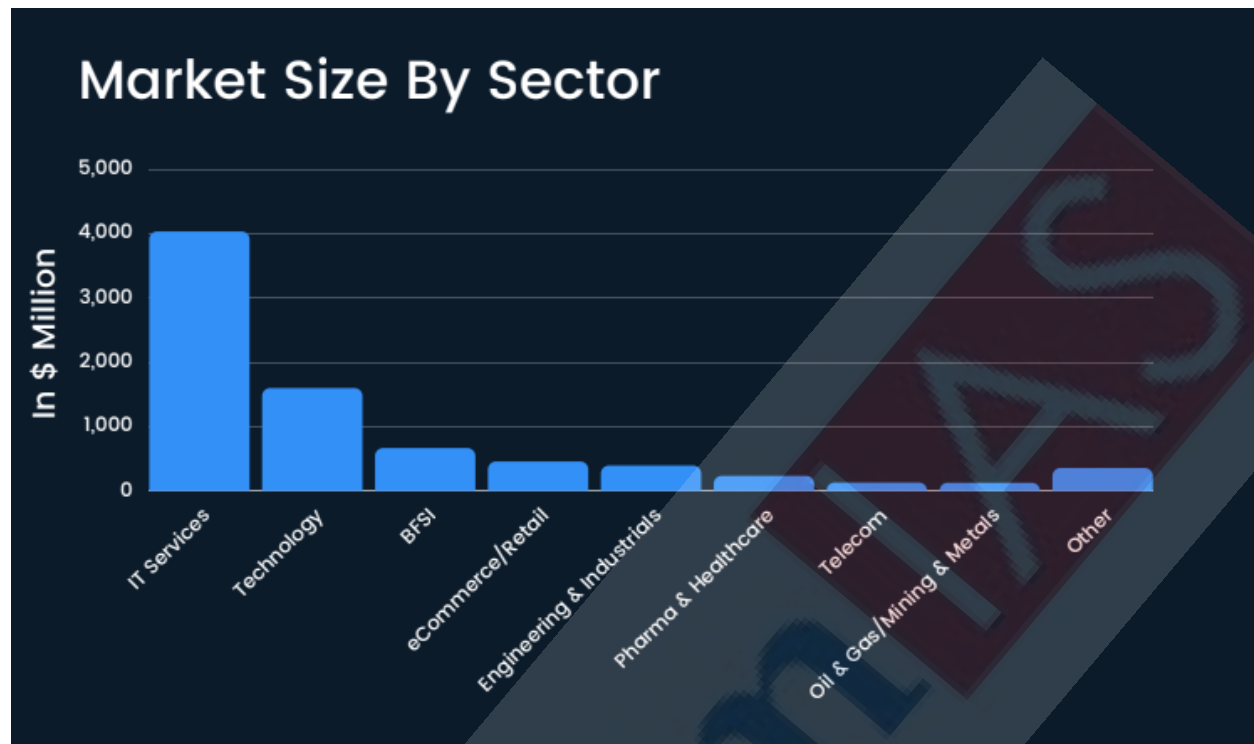
What is the current status of Artificial Intelligence?

India was **ranked 8th in the top 10 countries** by AI patent families ahead of Russia and France. AI-related patent applications grew tenfold from 2012 to 2018. India has over 1,300 Global Capability Centres (GCCs) and one in every five GCCs use AI across key business functions such as cybersecurity, customer services, supply chain, and operations management.

The Government expenditure on AI and Machine Learning has also steadily increased and is expected to reach USD 11,781.9 million in 2025.

As per the **State of Artificial Intelligence Report, 2021**, the Indian Artificial Intelligence market is valued at US\$ 7.8 billion as of July – August 2021. This represents a 22% increase in market size over 2020.

There are close to 109,000 Artificial Intelligence personnel working in India across enterprises and sectors. This represents a 20% jump in personnel from last year.



Source: State of Artificial Intelligence in India Report, 2021

Why should India focus on Artificial Intelligence?

Economic Boost: According to NITI Aayog, AI has the potential to add US\$ 1 trillion to the Indian economy by 2035.

Employment Generation: A report titled 'AI Enabled SaaS: The Next Frontier for Global SaaS Start-ups from India' highlighted that AI could generate over 9,00,000 white-collar jobs and 3.6 million indirect jobs by 2030.

Huge Generator of Data: India is the world's largest generator of democratic data. It is the data which is being generated and analysed under the democratic rule of governance. This wealth of data gives India an advantage in many fields but the real value of this vast mine of data can only be extracted using effective AI and machine learning.

Boosting Technological Prowess: India is one of the largest smartphone manufacturers in the world, it has a new semiconductor programme, and its drone and robotics industries are some of the most exciting parts of its economy. India is also building quantum computing capability and chip-making prowess. India is also a world-leading destination for Software as a Service (SaaS) companies, and the growing use of AI and associated technologies can only boost India's existing technological prowess.

Confidence shown by Investors: Most venture capital funding in India is now going to AI projects in Banking, Financial Services, and Insurance Sector (BFSI), e-commerce, healthcare, electronics and renewable energy startups. Nearly 200 Artificial Intelligence Start-ups in India are today innovating and creating AI-based solutions for various industries.

Success of Flagship Programs: It can complement Digital India Mission by helping in the big data analysis which is not possible without using AI. Similarly, 'Make in India' programme can

be strengthened and help India in becoming a major manufacturing hub with AI-assisted technology.

What are the challenges associated with Artificial Intelligence?

First, a proper AI-based system requires a massive computational capacity, which means more data centers have to be created that requires **huge investment**.

Second, AI will **increase digital exclusion** in all spheres including the exclusion of societies and nations. Further, global Investment also likely to shift to countries where AI-related work is already established. Also, a report published in The Guardian highlighted how AI driven algorithms can be affected racial and gender stereotypes and thus lead to exclusionary decisions.

Third, there are fears that AI will result in **less demand for human resources**. It is not a good sign for India that has a huge proportion of young population. It will reduce desk jobs, such as accountants, financial traders, and middle managers.

Fourth, the most important concern with AI is the concern of **data privacy**. The AI algorithm will improve only with access to more data. It will lead to the constant utilization of our digital footprints with or without our knowledge. Scandals like **Cambridge Analytica** are an example of such a violation of privacy.

What steps have been taken by the Government towards Artificial Intelligence?

National Strategy for Artificial Intelligence: It was released by NITI Aayog in 2018. It lays out the roadmap for India to leverage the coming-of-age technologies to ensure inclusive growth and social development. It identifies 5 sectors for AI application to serve societal needs: Healthcare, Agriculture, Education, Smart cities and infrastructure and Smart mobility and transportation.

Responsible AI Approach Documents: It was published by NITI Aayog in collaboration with the World Economic Forum Centre for the next AI Industrial Revolution. The Documents seek to establish broad ethics and principles for the design, development, and deployment of AI in India.

Draft framework on the India Artificial Intelligence Stack: It has been released by the Department of Telecommunications and is focused on eliminating the barriers to AI deployment. It aims to enable an environment to exploit AI productively across all sectors and bring interoperability, among other things. The Stack is divided into 6 layers: 5 main horizontal layers and 1 vertical layer. Each layer caters to a specific purpose ranging from information gathering and storage to security and governance.

Incorporation of AI into governance: In Telangana, AI is helping authenticate pensioners and ensuring that payments go to pensioners who are alive thereby removing chances of graft. The Ministry of Corporate Affairs is using AI to simplify corporate filings, while the Centre for Artificial Intelligence and Robotics (CAIR) has been built as a special hub for AI-related work of the DRDO.

What more steps can be taken going ahead?

First, The **proposed AI stack should be put into implementation**. It will facilitate open API integration and build AI architecture from square one. It will also provide a balanced 'playground' for institutions to accelerate research and development in AI and ensure speedy adoption of AI across the value chain.

Second, The government should also focus on **integrating AI with other new age technologies** like Blockchain. This would **enable solutions to longstanding policy challenges** in domains like land transactions and medical record keeping.

Third, Countries have to develop **broad-based ethical principles, cultures, and codes of conduct** in utilizing AI-based systems. The principles not only include the “whole of society” approach but also include the “whole of world” approach, e.g., the UN Secretary-General’s Roadmap on Digital Cooperation. This focuses on multi-stakeholder efforts on global cooperation. Similarly, UNESCO has also developed a global, comprehensive standard-setting draft Recommendation on the Ethics of Artificial Intelligence.

Fourth, India should also **pass the data protection bill** and appoint an **independent data regulator** in order to prevent violation of privacy using AI.

Conclusion

The Artificial Intelligence market in India will continue to be the primary growth driver of the Data Science domain and the broader IT industry over the next few years. Keeping this in mind, India should take proactive steps to unleash the potential of Artificial Intelligence.

Source: Yojana June 2022, [State of Artificial Intelligence in India](#)

Antimicrobial Resistance (AMR): Causes, Concerns and Remedies – Explained, pointwise

Introduction

COVID-19 exposed the vulnerabilities of health systems across the globe. It has taken away lives of more than 3 million people since January 2020. Experts believe that Antimicrobial Resistance (AMR) poses even a greater threat in the coming years. It is a looming public health crisis impacting every country globally with a disproportionate impact on lives and livelihood in low and middle-income countries. Moreover, just like COVID-19 pandemic, the impact of IMR will not be limited to a particular country and a region, global health system will be vulnerable. Combating AMR would thus require a concerted effort at the global level.

What is Antimicrobial Resistance (AMR)?

Antimicrobials are agents intended to kill or inhibit the growth of microbes. They include antibiotics, fungicides, antiviral agents and parasiticides. Disinfectants, antiseptics, other pharmaceuticals and natural products may also have antimicrobial properties.

AMR occurs when microbes such as bacteria, viruses, parasites and fungi become resistant to antimicrobial treatments to which they were previously susceptible. Superbugs are strains of micro-organisms that are resistant to most of the medications.

What are different kinds of Antimicrobial Resistance?

Natural (intrinsic, structural) resistance: This kind of resistance is caused by the structural characteristics of microbes and is not associated with the use of antimicrobials. It has no hereditary property.

Acquired resistance: Due to changes in the genetic characteristics of microbes, acquired resistance occurs as it is now unaffected by the previous antimicrobial. This kind of resistance occurs mainly due to structures of chromosomes or extrachromosomal such as plasmid, transposon, and others.

Cross resistance: Some microorganisms are resistant to a certain drug that acts with a similar mechanism as some other drugs. However, sometimes it can also be seen in completely unrelated

drug groups. This resistance is usually observed against antibiotics whose structures are similar. This may be the chromosomal or extrachromosomal origin.

Multi-drug resistance and pan-resistance: These are often bacteria resistant to the antibiotics used to treat them. This means that a particular drug is no longer able to kill or control the bacteria.

What is the current status of Antimicrobial Resistance?

A recent report from the **Global Research on AntiMicrobial resistance (GRAM) project found that in 2019**, an estimated 4.95 million people suffered from at least one drug-resistant infection and AMR directly caused 1.27 million deaths. AMR is one of **India's major public health problems**, directly contributing to about **30% of deaths** due to neonatal sepsis across India. These are due to multidrug-resistant (MDR) hospital-acquired infections in many cases.

Over 30% of the **COVID-19 deaths in India** could be attributed to our failure to treat the secondary bacterial infections caused by MDR pathogens with the appropriate antibiotics.

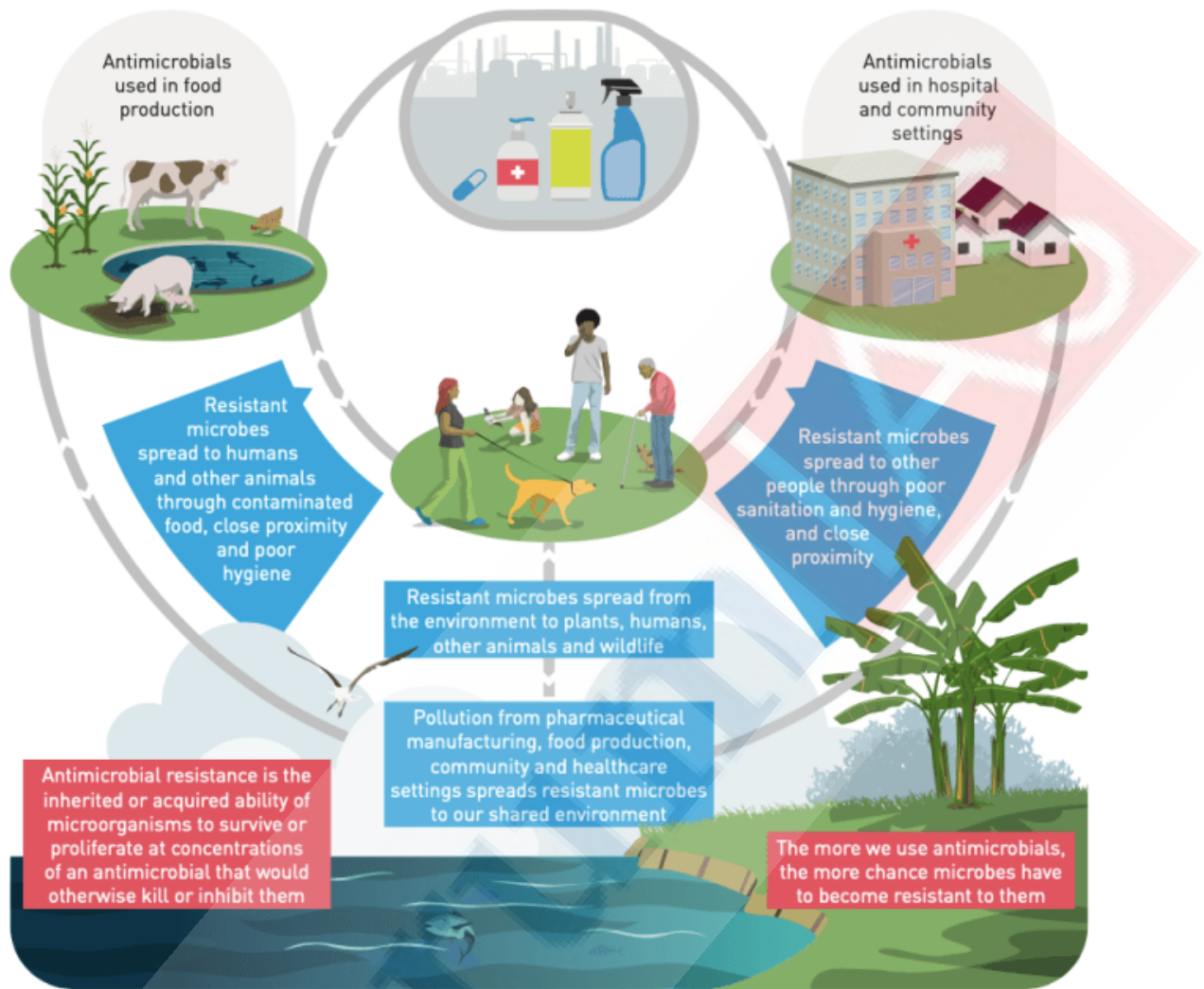
What are the reasons behind the growth of Antimicrobial Resistance?

Primary reasons

Misuse of antimicrobials in medicine: This happens when the proper course of medication is not done (e.g., course left incomplete mid-way) or the person indulges in self medication.

Inappropriate use in agriculture: Antibiotics are used to boost productivity of livestock. Over-use leads to resistance in microbes.

Contamination around pharmaceutical manufacturing sites: The untreated waste releases large amounts of active antimicrobials into the environment.



How antimicrobial resistance can spread (adapted from Government of Australia 2017)

Source: UNEP

Secondary Reasons

No new antimicrobial developments: No new classes of antibiotics have made it to the market in the last three decades. This is a result of inadequate incentives for their development and production. A recent report from the non-profit PEW Trusts found that over 95% of antibiotics in development today are from small companies. The **exit of big pharma from antibiotic development** coupled with a lack of investment from venture capitalists to support the commercial viability of antibacterial agents has pushed AMR into a global health crisis.

Easily Availability: Antimicrobials are easily available as 'over the counter drugs' in many countries. This ease facilitates more consumption and development of AMR.

Summary of the major pollution sources affecting AMR in the environment

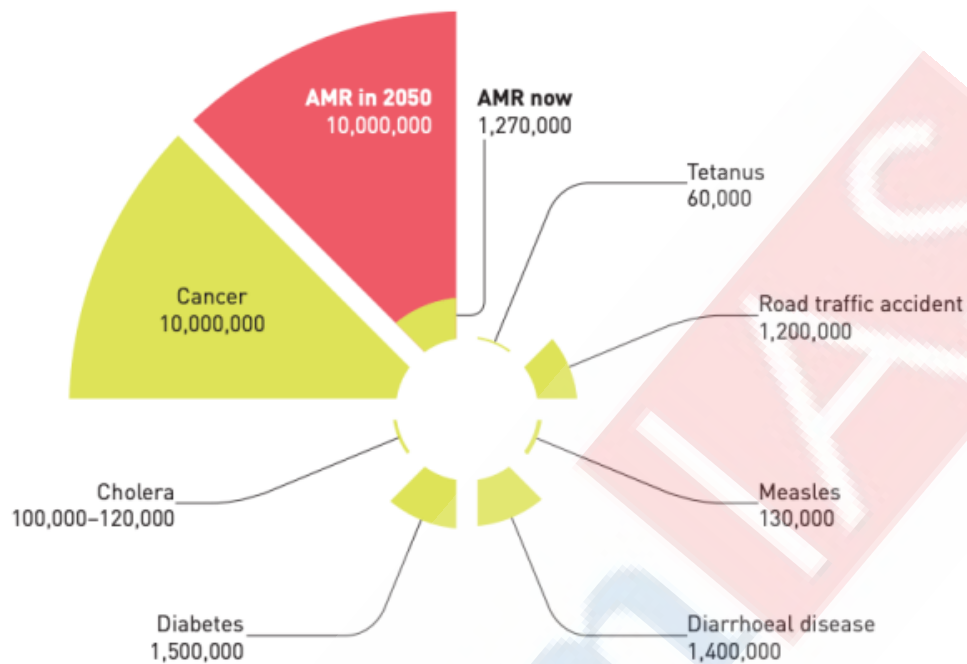
Major sources	Type and nature of potential environmental releases
Poor sanitation, sewage and waste effluent	<ul style="list-style-type: none"> Preventable use of antimicrobials due to disease burden caused by poor WASH conditions Lack of sanitation or poorly functioning sanitation or fragmented systems (e.g. open defaecation, poorly contained pit latrines, septic tanks and sewers) that contaminate water sources and spread AMR Effluent from septic tanks and wastewater treatment plants Faecal sludge and wastewater biosolids Releases from unused drugs disposed of in toilets, bins or waste dumps Leaching from open waste dumps Urban runoff
Effluent and waste from pharmaceutical manufacturing	<ul style="list-style-type: none"> High concentrations of antimicrobials in untreated effluent Residual antimicrobials in solid wastes discharged from pharmaceutical fermentation processes Resistant microbes in effluent if biological treatment is applied
Effluent and waste from healthcare facilities	<ul style="list-style-type: none"> Antimicrobial products and residues in hospital solid wastes Resistant microbes (including those with more abundant and diverse ARGs) and antimicrobial residues (particularly antimicrobial compounds of last resort) in hospital wastewater/effluent
Use of antimicrobials and manure in crop production	<ul style="list-style-type: none"> Fungicides, herbicides, heavy metals and antibiotics used in the production of food, feed and raw materials Untreated manure and wastewater that may contain pharmaceutical residues, ARGs and resistant microbes intentionally applied to soil and crops Inappropriate disposal of unused antimicrobials (e.g. fungicides)
Releases, effluent and waste in animal production	<ul style="list-style-type: none"> Manure and effluent from aquatic and terrestrial animal production that may contain pharmaceutical residues, ARGs and resistant microbes Application of antibiotics and parasiticides in aquaculture that go directly into the environment Improper disposal of unused drugs

Source: UNEP

What are the challenges posed by spread of Antimicrobial Resistance?

Threat to the health care system: Antimicrobials prevent infections post a routine surgery or cancer treatment. Their ineffectiveness would impair the modern health system. The problem is more grave for low- and middle-income countries (LMICs) of Asia and Africa where cheap antimicrobials have significantly reduced the mortality rates.

Loss of Human Lives: It is responsible for upto 7 lakh deaths a year. E.coli and MRSA (MethicillinResistant Staphylococcus Aureus) are among the drug-resistant bacteria that led to most deaths. It is estimated that 10 million annual deaths would be caused by it post 2050.



Predicted mortality from AMR compared to common causes of death today (adapted from O'Neill 2016)

Source: UNEP

Economic Brunt: Abundant capital would be required to manage the AMR crisis in future. As per an estimate it may cost up to US\$ 100 trillion by 2050.

Possibility of Next Pandemic: Scientists are worried that the next global pandemic might be caused by a superbug e.g., in 2021 researchers found a superbug (C. Auris) on remote sandy beaches of Andaman Islands that was multi-drug resistant. C Auris when enters the human body causes severe bloodstream infections, illness and can lead to sepsis.

What steps have been taken towards controlling Antimicrobial Resistance?

Domestic

Banning usage in Agriculture: The Government of India **passed an order banning the use of streptomycin and tetracycline in agriculture** and the growth promotional use of colistin in poultry farming.

National programme on AMR containment: It was launched during 12th FYP in 2012-17. Under this programme, AMR Surveillance Network has been strengthened by establishing labs in State Medical Colleges. 30 sites in 24 states have been included in this network till 30th March 2021.

Delhi Declaration on AMR: An inter-ministerial consensus was signed by the ministers of the concerned ministries pledging their support in AMR containment.

Red Line campaign: To prevent irrational use of prescription-only antibiotics and create awareness on the dangers of taking antibiotics without being prescribed.

Global

Small companies are getting early-stage funding from **public-private partnerships like CARB-X** (the Combating Antibiotic Resistance Bacteria Biopharmaceutical Accelerator). It has provided more than \$360 million in funding for 92 antibacterial projects over the past five years.

The U.S. Congress enacted the **Generating Antibiotic Incentives Now Act (GAIN Act) of 2012**. It provides benefits to manufacturers of Qualified Infectious Disease Products (QIDPs) including five years of additional non-patent exclusivity.

The WHO launched **the Global Action Plan (GAP) on AMR** in 2015. It outlines five objectives: **(a)** Improve awareness and understanding of antimicrobial resistance through effective communication, education and training; **(b)** Strengthen the knowledge and evidence base through surveillance and research; **(c)** Reduce the incidence of infection through effective sanitation, hygiene and infection prevention measures; **(d)** Optimize the use of antimicrobial medicines in human and animal health; **(e)** Develop the economic case for sustainable investment in new medicines, diagnostic tools, vaccines and other interventions.

What further steps can be taken going ahead?

First, the **environmental governance, planning and regulatory frameworks** must be enhanced. Ministries of Environment and environmental agencies must be included in developing and implementing all **National Action Plans (NAPs)**. Specific actions could include developing legislation, codes of good practice and policy guidance to support action to reduce and minimize environmental releases of AMR relevant pollutants.

Second, baseline **information on the antibiotic type**, the extent of usage, tracking agricultural practices that promote resistance needs to be generated. This will aid in better decision making and improve follow up actions.

Third, the **surveillance, reporting and monitoring systems** must be improved.

Fourth, a novel approach, such as **'One Health'**, is required to better understand the environmental dimensions of AMR and take science-based decisions and actions. It is a holistic approach that links the health of humans with our shared environment. This includes domestic and wild animals, plants, and the wider environment to achieve better public health outcomes.

Fifth, there is a need for robust investment in research and development of new antibiotics, rapid and affordable diagnostics, strengthening infection control etc. to swiftly tackle the AMR crisis. In this regard **support can be taken from AMR Action Fund**. It aims to invest more than \$1 billion to address the current funding gaps in the development of new antibiotics.

Sixth, There must be appropriate and judicious use of antimicrobial drugs. The learning experience from existing programmes can be shared globally: **(a) Peru's efforts on patient education** to reduce unnecessary antibiotic prescriptions; **(b) EU-supported VALUE-Dx programme** that has increased the use of point-of-care diagnostics. This has resulted in prudent drug intake.

Conclusion

The development of resistance to antimicrobials is a major public health problem all over the world. It makes even minor infections tough to treat, causing severe illnesses and deaths. Hence a clarion call to end this menace must be taken at local, national and global levels that would eventually help in **attainment of SDG 3** i.e ensuring good health and well being for all.

Source: [The Hindu](#), [Economic Times](#), [UNEP: Environmental Dimensions of AMR](#)

India's Engagement with Taliban – Explained, pointwise

Introduction

After a strategic retreat from Kabul following the Taliban takeover in August 2021, India has re-established its diplomatic presence in Afghanistan. India has deployed a team in its embassy in Kabul, 10 months after it pulled out its officials from the mission following the Taliban's capture of power. The current state of affairs is far from being business as usual. However, India is on the path for enhancing engagement with the new regime in Afghanistan. The engagement will be full of challenges, but with a well-planned and long-term strategy it has the potency of securing many of India's strategic interests in Afghanistan and the region.

What has been India's Approach towards Taliban?

India had **refused to recognise the Taliban regime of 1996-2001**. India had at that time supported the 'Northern Alliance' in fighting the Taliban in Afghanistan. The alliance was a united military front that came to formation in late 1996 after the Islamic Emirate of Afghanistan (Taliban) took over Kabul. It fought a war with the Taliban in 2001. This ended the Taliban's rule over Afghanistan.

India has long held the position of **dealing only with the elected government** in Kabul. India supports an **Afghan-led, Afghan-owned and Afghan-controlled peace process**. Due to this, India pulled out its officials from its embassy following the Taliban's capture of power in August 2021.

India was the one of the first countries to immediately ban all Afghans traveling to India, including students and patients with a valid Indian visa. However, India has been showing flexibility in its earlier rigid policy of engagement with Taliban considering the changing geopolitical landscape.

How has India sustained its engagement after the takeover by Taliban?

Even after the closure of the consulates and embassy, India continued to express concerns about the humanitarian crisis in Afghanistan.

It built regional consensus about the threat of terrorism, voiced its support for an inclusive government, and **provided aid and assistance to the people of Afghanistan**. Much of this is in sync with the **Agreement on Strategic Partnership (ASP)** that India had signed in October 2011.

However, India chose to abstain from the UN Security Council's calling on the Taliban to open girl schools. It continues to remain silent about the worsening situation in Afghanistan.

India is one of the most visible actor in Afghanistan in humanitarian support post Taliban takeover. India has supplied 20,000 metric tonnes of wheat, 13 tonnes of medicines, winter clothing, 500,000 doses of COVID-19 vaccines to Afghanistan, as well as 1 million doses of Covid-19 vaccines for Afghan refugees in Iran.

Read More: [Aiding Afghanistan](#)

Recently, India sent a small technical team to Kabul in June 2022, to deal with the humanitarian crisis following the earthquake in Paktika and Khost provinces as a first responder.

What is the need to engage with the Taliban?

Security: A stable Afghanistan is crucial for regional and domestic security of India. With Afghanistan becoming a centre of radical ideology and violence, such a development would affect Pakistan and inevitably reach India. Engagement is desired to prevent Afghanistan from becoming another safe haven for anti-India terrorist groups, and also check Pakistan's deepening influence in Kabul.

The Taliban's victory realised two important ideological and strategic goals of militant Islamists and their Pakistani patron: **(a)** Establishing a "pure Islamic Government" in the Heart of Asia; **(b)** Securing Pakistan's "Strategic Depth". The two concepts are necessary pre-conditions for attaining another long-held vision of Islamists.

Connectivity: The most important role of Afghanistan is always considered as **India's gateway to Central Asia**. It implies continental outreach. For instance, connectivity with Afghanistan and further with Central Asia have been primarily the reasons for India's engagement with Iran to develop Chabahar port.

Strengthening regional foothold: Increasing strategic engagements with Afghanistan is beneficial for strengthening a foothold in the region. For example, India's relations with Iran at present are dominated by oil. Diversification of engagements would strengthen India's relations with Iran and other countries.

Energy Security: To address its energy needs and to sustain its economic growth, pipelines from Iran and Central Asia would be extremely important. India sees Afghanistan as an essential component of the TAPI (Turkmenistan, Afghanistan, Pakistan, India) pipeline.

Trade: In case of trade, Afghanistan can help India export its products to Europe, gaining foreign exchange. The railway line from Chabahar to Zahedan in Afghanistan envisages to connect New Delhi with Iran, Afghanistan, Central Asia and Europe.

Diplomatic Outreach by Taliban: The Taliban have also tried to reach out to India. Indian Officials had first met Taliban's Political Head in Doha (Qatar) in August 2021 at the request of Taliban. In the 1990s, the Taliban had excessive reliance on Pakistan for international recognition. However, circumstances are now different, Pakistan's economy is in shambles and its diplomatic space has contracted considerably. India's economy and international standing has improved appreciably since 1990s. Taliban realizes that it has to reach out to all regional powers, especially India, to get international recognition for the Islamic Emirate of Afghanistan.

5 Pillars of India's Development Partnership with Afghanistan

Humanitarian Assistance

- Indira Gandhi Institute of Child Health: 400-bed hospital for Children.
- Supply of Wheat, Medicines, COVID-19 Vaccines and other essential items.

Infrastructure

- 218 Km Road from Zaranj to Delaram for movement of goods from Iran.
- Salma Dam on River on Hari River with 42 MW capacity.

Connectivity

- Chabahar port in Iran and Connectivity with Afghanistan and Central Asia.
- Direct Air Freight Corridor between India and Afghanistan, established in 2017.

Economic Development

- Private Investments in Afghanistan like India-Afghanistan Trade and Investment Show.
- 116 'High Impact Community Development Projects' in 31 Provinces of Afghanistan.

Capacity Building

- Training and Development programmes for Afghans.
- Support to Students, Defense Personnel among others.

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India had considerable presence in Afghanistan before Taliban's takeover.

What does the change in India's stance signify?

First, there seems to be a definite realization that the **Taliban regime is there to stay** and no amount of pressure building will dislodge it from power at least in the near-medium term. There are indications of the development of some opposition to the Taliban in the Panjshir valley. However, there is also no indication of a popular countrywide upsurge which could push them out.

Second, there seems to be some convergence in the policy and strategic circles that **engagement, not complete detachment**, could be the key to **securing India's vital strategic interests in Afghanistan**. This needs to be done when the Taliban regime is still isolated internationally and therefore amenable to India's presence.

The complexity of circumstances in Afghanistan leaves very limited options, as summed by the US Officials: **Engage, Isolate, or Oppose**. The US officials say they are focusing on the first two options. India's approach appears to be similar.

Third, it shows that India is **unwilling to repeat the past mistake of 1996**, when New Delhi shut its embassy for 5 years, reducing Afghanistan to a strategic and intelligence black hole.

Fourth, it will give **India an opportunity to exploit the divisions** within the Taliban to win over the moderates and dilute the agenda of the hardliners.

Fifth, India understood that its **absence was working to the advantage of countries** who did not wish it to return and were using the space to restart proxy warfare.

What are the challenges in engaging with the Taliban?

Lack of Legitimacy: Taliban still doesn't command legitimacy of the majority population. It is controlling them by sheer use of force which may give rise to another civil war and bring instability in the region.

Human Rights Violations: The Taliban have excluded all non-Taliban Pashtuns from public space as is shown by the house detention of former President Hamid Karzai. There are also systematic violations of the human rights of the non-Pashtun communities which amount to crime against humanity, and ethnic cleansing which borders on genocide.

Regressive Outlook: Taliban is a predominantly Pashtun men-only regime which has imposed harsh restrictions on women at home. Its orthodoxy may bring more misery for women in future and undermine gender equality.

Mistrust on Taliban: Though there are indications of a policy shift but still there has been a high degree of mistrust on Taliban since the Hijack of an Air India flight to Kandahar in 1999.

External State Influence: Pakistan and China will place numerous barriers to diminish the growing closeness of India and Taliban. Since August 15, 2021, Afghanistan has descended from a Pax Americana experiment to a "Pax Pakistana" ambition.

What lies ahead?

First, for now, the '**engagement**' formula seems to work for both. Engagement by India will enhance the profile of the former insurgents and may even be the mark of an ice-breaking event following which other countries will follow suit. On the other hand, it may also allow India to moderate the radical stance of the Taliban. For instance, the Taliban has followed up with two back-to-back statements on **strengthening its defense relationship with India**. It is also offering to welcome former members of the Afghan National Defense and Security Forces (ANDSF) trained in India back to their jobs.

Second, India needs to frame a **comprehensive long-term policy of engagement** with all the stakeholders to ensure that peace and stability return to Afghanistan. The people of Afghanistan and not the current regime needs to remain at the centre of its declared Afghan policy.

Third, the prospects for peace and stability in Afghanistan under a Pax Pakistana lordship are not feasible as Pakistan itself is overwhelmed by multiple internal and external challenges. Afghanistan **needs a strong UN mandate**, including a UN-led political transition process supported by a UN peacekeeping force. India can lend its support to such endeavors which are worthy of its character, ambition and Afghanistan's needs.

Conclusion

India should work with other regional and global players to push the Taliban to adopt a more inclusive regime. At the same time, it should maintain a policy of gradual bilateral engagement rooted in realism.

Source: [Indian Express](#), [Indian Express](#), [The Hindu](#), [IDSA](#), [ORF](#)

Frequent Floods in Assam – Explained, pointwise**Introduction**

Flood is an overflow of a large amount of water beyond its normal limits, especially over what is normally dry land. Recently, over 5.5 million people have been affected in 32 districts of Assam (out of 35) due to the devastating floods as per the Assam Disaster Management Authority. Occurrence of devastating floods in Assam is common. The State has witnessed the same on multiple occasions. In the last century, devastating floods occurred in 1934, 1950, 1954, 1955, 1966, 1988 and 2004.

Assam has vast network of rivers. The flood prone area of India stands at about 10.2% of the total area but the flood prone area of Assam is **39.58 %** of the area of the state. Hence, Assam has four times the flood prone area than national average. Further, Guwahati's topography is shaped like a bowl which makes it susceptible to waterlogging. The city has been uniquely shaped by three hills that accumulate water during the monsoon.

Considering this, Assam can strengthen embankments, dredge rivers, address river erosion and take wise policy decisions if it wants to effectively manage floods in the future. These measures were suggested by the Parliamentary Standing Committee on Water Resources in its report released in August last year.

What are the existing Flood Management Mechanisms in India?

In India, there is a **two tier system of flood management**:

State Level Mechanism : The State Level Mechanism includes the Water Resources Departments, State Technical Advisory Committee and Flood Control Board. In some States, the Irrigation Departments and Public Works Departments look after flood matters.

Union Government Mechanism: The Union Government has set up multiple organizations and various expert committees to enable the State Governments in addressing flood problems in a comprehensive manner.

Central Water Commission (CWC): It was set up for achieving the goal of furthering and promoting measures of flood control. It also focuses on conservation and utilization of water resources throughout the country in the areas of irrigation, hydropower generation, flood management and river conservation.

Brahmaputra Board: The Government of India set up the Brahmaputra Board under the Brahmaputra Board Act, 1980 (46 of 1980) under the then Ministry of Irrigation (now Ministry of *Jal Shakti*). The jurisdiction of the Board includes all NE States in the Brahmaputra and Barak Basin.

National Disaster Management Authority (NDMA): The aim of the NDMA is to prevent and mitigate disasters including floods. It focuses on undertaking a holistic, coordinated and prompt response to any disaster situation. The Government of India has set up a National Disaster Management Authority (NDMA) in 2005 under the Chairmanship of Hon'ble Prime Minister of India.

What are the reasons behind the frequent floods in Assam?

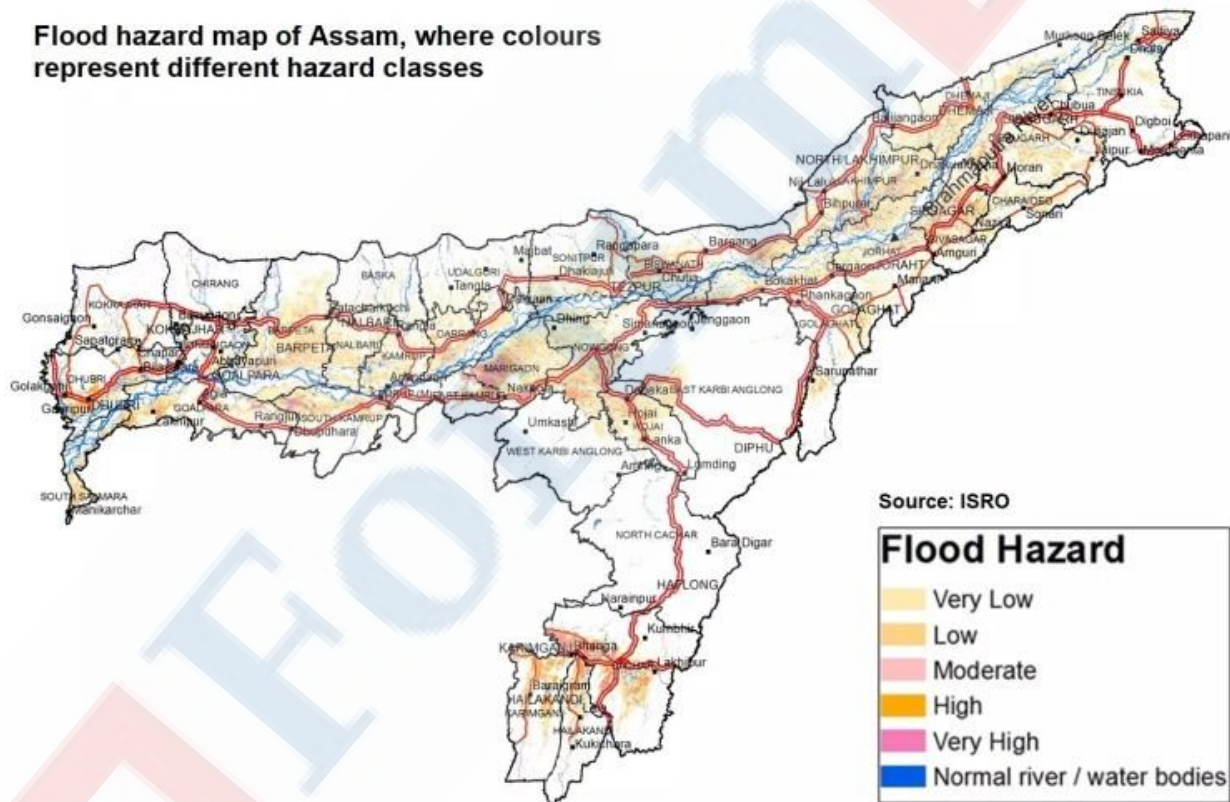
Natural

Intensified Monsoon: The Bay of Bengal has a major influence on the monsoon in Northeast India. This year there were two coupled ocean-atmosphere phenomena; La Nina in the Pacific Ocean and a Negative Dipole in the tropical Indian Ocean. The two phenomena combined to cause high rainfall in the Bay of Bengal. As a result, weeks before the usual monsoon season, rains had already drenched the basin.

Climate Change: The rise in global temperatures creates a warmer atmosphere. Warmer air can hold more moisture leading to intense bouts of rain and eventually flooding the region. Further, climate change is **intensifying the melting of glaciers** in the Himalayas that can enhance the magnitude of flooding in the northeast.

Topography: Assam is home to a vast network of rivers, including the Brahmaputra and Barak River. More than 50 tributaries feeding them. Assam also receives river water from neighbouring states like Arunachal Pradesh and Meghalaya. The flat topography and large water flow results in inundation of land.

Flood hazard map of Assam, where colours represent different hazard classes



Source: waterresources.assam.gov.in

Volatile Nature of Brahmaputra: Brahmaputra River is braided and unstable in its entire reach in the Assam Valley except for a few places. The **instability of the river** is attributed to high sediment charge and steep slopes. The river also changes course frequently and it's virtually impossible to contain it within embankments. The width of the river Brahmaputra has increased up to 15 kilometres at some places due to bank erosion. It is estimated that annually nearly 8,000 hectares land is lost to erosion.

Earthquakes/Landslides: Assam and other parts of the North-eastern region are prone to frequent earthquakes which cause landslides. The landslides and earthquakes send in a lot of debris in the rivers causing the river bed to rise.

Anthropogenic

Dams: One of the key causes of floods in the Assam region is the unregulated release of water from dams situated uphill.

Unplanned expansion of the urban areas: From an estimated 11,000 people in 1901, Guwahati now is home to close to 1.1 million people. Rapid population growth has led to severe encroachments of the wetlands, low lying areas, hills and shrinkage of forest cover. Further a poor drainage system is also a key reason for water-logging in cities that eventually leads to flooding.

What are the adverse impacts of floods?

Loss of Life: The most devastating impact of floods is the loss of precious human lives. In the recent Assam Floods, the death toll has already reached 170.

Habitat Loss: In many parts of the State, both rural and urban, shoals of water drove people from their homes and forced many of them to seek shelter for their livestock. So far, 1.38 lakh houses have been totally or partially damaged.

Deters Food Security: In many places, people failed to save standing crops. Granaries were damaged and mud houses were filled with sand brought by the rivers in spate.

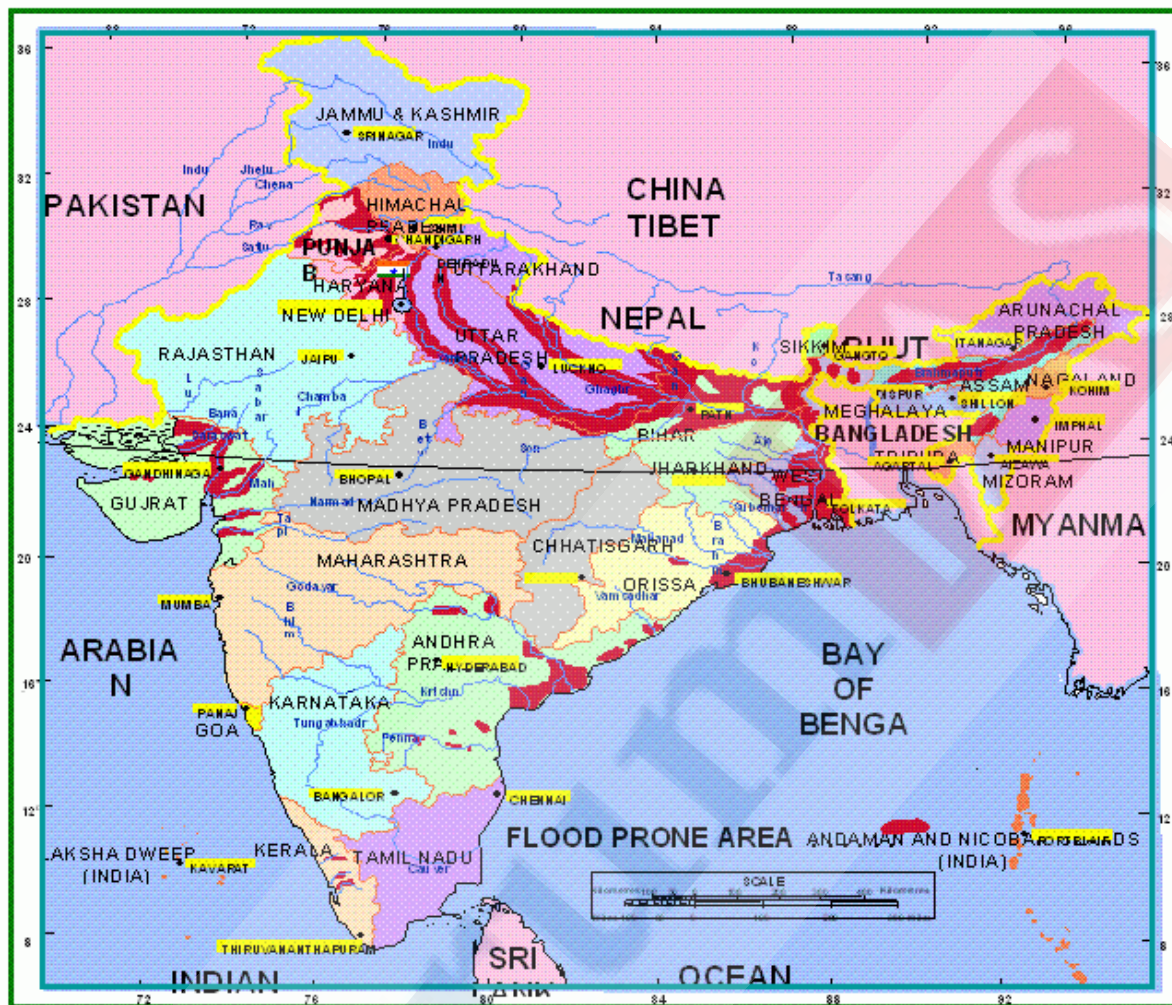
Economic Loss: Numerous critical infrastructure like buildings, power lines, communication lines etc.. get damaged due to flooding. Roads get blocked due to which people are unable to carry out their livelihood. Thus it brutally impacts the economy of a region.

Environmental Degradation: Not only humans but our pristine environment composed of a diverse variety of flora and fauna also faces the brunt of excessive flooding. Numerous animals die and trees get uprooted due to excessive flooding.

What are some positive impacts of Floods?

First, floods generate a bounty of fish and rejuvenate flood-plain ecosystems all along the Brahmaputra, including in the Kaziranga. This landscape has been shaped over millions of years with the help of an active monsoonal environment and mighty rivers that carry sediments weathered from the still-rising Himalaya.

Second, the annual floods are a natural way to enrich the soils, which have a propensity to get depleted.



Flood Prone Area Map of India. Source: National Flood Commission

What steps have been taken by the Government for flood management?

National Flood Commission (Rashtriya Barh Ayog): The Commission submitted its comprehensive report in March 1980. It contained a total of 207 recommendations covering the entire gamut of problems related to floods in the country.

Observations of the National Flood Commission (*Rashtriya Badh Aayog*)

- The increase in floods was due to **anthropogenic factors** such as deforestation, drainage congestion and badly planned development works.
- **Embankments** and reservoirs are **ineffective methods** of flood control. Their construction should be limited to areas where their **efficacy has been proven**.
- There has to be **consolidated efforts among the States and the Union Government** to take up research and policy initiatives to control floods.
- It recommended a **dynamic strategy** to cope with the changing nature of floods. The problem began with the **methods of estimating flood-prone areas** of the country.

Recommendations

- **Identification of flood affected areas**, carry out field surveys and indicate the area that can be given **protection against flood damage**. Separate reporting of flood damage for **(a) Unprotected areas; (b) Protected areas and (c) Areas situated between the embankments**.
- **Data collection** for providing information on their long term performance and their impact on various socio-economic factors.
- **Legislation** and enforcement by States to prevent unauthorized river bed cultivation and encroachments into drains etc.

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R Rangachari Committee: It was set up by the Ministry of Water Resources, Government of India in October 2001 to review the implementation of recommendations of the National Flood Commission.

National Water Policy (1987/ 2002/2012): The Government of India has laid significant emphasis on the management of floods under the policy.

What are the flaws in the flood management in India?

The biggest shortcoming has been **lack of implementation** of the recommendations of the National Flood Commission. A report by the CAG in 2017 observed that flood-prone States had **not identified or demarcated affected areas** in spite of recommendations by multiple committees. Only two of the 17 audited States had verified RBA's assessment of flood-prone areas. The data were to be used for drawing maps of areas affected by floods. This had also not been implemented.

The National Water Policy of 2012, had specified **preparation of digital elevation models** and frequency-based Flood inundation maps. These have also not been prepared.

The Central Water Commission (CWC) had circulated a Model Bill for Flood Plain Zoning among States for enactment in 1975. Flood Plain Zoning demarcates zones or areas likely to be affected by floods of different magnitudes or frequencies the damage can be mitigated. The CAG report observed that **only 3 States (Manipur, Rajasthan and Uttarakhand) had enacted Flood Plain Zoning Acts**.

The CAG Report had observed that the damage to life and property in Uttarakhand (2013) and Chennai (2015) floods would have been much lesser, had the recommendations been implemented.

What are the recommendations of the Parliamentary Standing Committee on Water Resources?
Strengthen embankments along the rivers: Most flood protection structures in Assam are over 50-60 years old. These were constructed on the main stem of the Brahmaputra and its tributaries way back in the 1960s and have become weak now.

Dredging of Rivers: Dredging is the removal of sediments and debris from the bottom of lakes, rivers, harbours, and other water bodies. It is a routine necessity in waterways around the world because sedimentation—the natural process of sand and silt washing downstream—gradually fills channels and harbors.

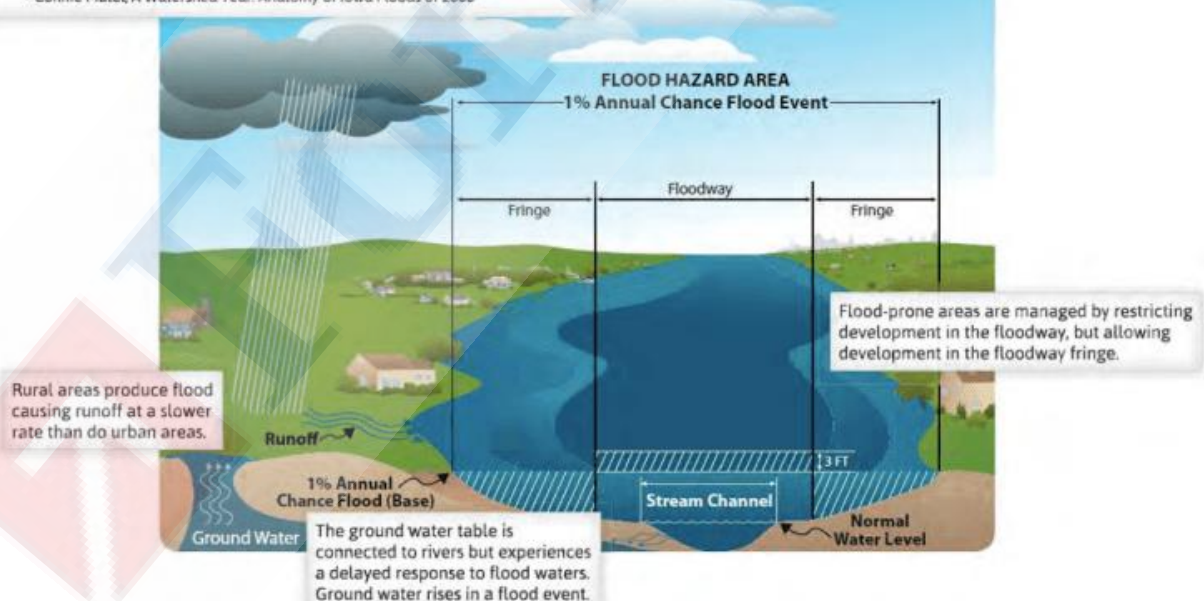
Improve Alert and Forecasting: There is a need to set up modern weather stations in the upstream catchment of all dams in the North East and install sirens on river banks near dams. This would alert downstream populations in the event of floods.

Inclusion of river erosion in an admissible list of calamities: The Government should consider inclusion of river erosion in the admissible list of calamities for availing assistance under the National Disaster Response Fund/State Disaster Response Fund.

Address Vacancies in the Brahmaputra Board: The Brahmaputra Board which has been functional since 1982 does not have enough manpower. The Report had asked the Board to fill up all vacant posts on a priority basis.

Enact Flood Zoning Bill: Major flood-prone states such as UP, Bihar, West Bengal, Assam, Odisha etc. have not taken the initiative to enact the Flood Plain Zoning Bill. The Law must be enacted to regulate activities in the floodplains. This will help mitigate the damage to life and property.

"Living with floods involves two broad activities: better managing the risks and taking steps to reduce our vulnerability, and better managing the landscape to reduce the magnitude of destructive power of floods."
 --Connie Mutel, A Watershed Year: Anatomy of Iowa Floods of 2008



Source: Philadelphia.gov

Set up River Basin Organizations: The report strongly recommended the setting up of River Basin Organizations or RBOs. These would effectively provide immediate, short-term and long-term solutions in addition to the overall development of the river basin.

Mitigation Measures: Measures such as Afforestation and rejuvenation of wetlands should be taken to mitigate the impact of floods.

Conclusion

Assam and numerous other States in India are going to face increased flooding in future, especially considering the rapid climate change. The recent floods are a wake up call to enact more robust policies for flood prevention and mitigation, prevention and response keeping in mind the spirit of **Sendai Framework on Disaster Risk Reduction**.

Source: [Indian Express](#), [Down to Earth](#), [Down to Earth](#), [Down to Earth](#)

Regulation of Advertisements in India – Explained, pointwise

Introduction

The Central Consumer Protection Authority (CCPA) under the Department of Consumer Affairs has issued 'Guidelines for Prevention of Misleading Advertisements and Endorsements for Misleading Advertisements, 2022'. The Guidelines are a progressive step towards regulation of advertisements in India. They aim to curb misleading advertisements and protect the consumers. The guidelines seek to ensure that consumers are not fooled with unsubstantiated claims, exaggerated promises, misinformation and false claims.

About the CCPA and the Guidelines

The CCPA has been established under Section 10 of the Consumer Protection Act, 2019. Its functions include: **(a)** Regulating matters relating to violation of the rights of the consumers, unfair trade practices and false or misleading advertisements which are prejudicial to the interests of consumers; **(b)** To promote, protect and enforce the rights of consumers as a class.

The new guidelines related to advertisements have been notified in exercise of the powers conferred by **Section 18 of the Consumer Protection Act, 2019** to CCPA. The guidelines will be applicable to advertisements published on all platforms like print, television and online.

Misleading advertisement has already been defined under **Section 2(28) of the Consumer Protection Act, 2019**. It includes any advertisement with: **(a)** False description of a product or service; **(b)** False guarantees misleading the consumers; **(c)** Express representation constituting unfair trade practice; **(d)** Deliberately not revealing the essential information about the product.

What are the emerging trends in advertising?

Digital Media Marketing: The lockdowns and restricted movement increased the use of social media. The demand for content has also increased commensurately. As a result, social media users are paying more attention to posts regarding brand endorsements.

Surrogate Advertising: The banned product (like alcohol or tobacco) rather than being projected directly to consumers is veiled behind another product (like Music CDs or pan masala), either by having the same brand name or similar practices. The aim is to ensure that whenever there is a mention of that brand, people start associating or recalling it with its main product.

Bait Advertising: It is a deceptive and insincere offer whereby the advertiser does not intend to sell the advertised product or service at the **unusually low advertised price**. The intention is to increase traffic, then **switch the customer to a higher priced item** when the customer is about to make the buying decision or visits the store. This is often accomplished by inducing customers to buy higher priced models by disparaging the less-expensive product.

Online Gaming Advertising: There has been a substantial rise in online gaming and real money winning games in India, perhaps owing to the ease of accessibility to smart phones and the internet.

Read More: [Online gaming and its regulations in India – Explained, pointwise](#)

Ambush Marketing: It is also called ‘parasitic’, ‘guerrilla’ or ‘moment’ marketing. It occurs when a brand exploits the goodwill of an event with the intent to unfairly piggyback or gain market benefits from that event, despite having no financial or official sponsorship or involvement. Recently, multiple brands were seen engaged in ambush marketing in relation to the Tokyo Olympics 2020 (2021) event.

What are the salient provisions of the new guidelines?

Non-misleading and valid advertisement: An advertisement can be considered non-misleading if it contains true and honest representation of goods. Genuine advertisements do not exaggerate the accuracy, scientific validity or practical usefulness or capability. In case of unintentional lapse, the advertisement may still be considered as valid if the advertiser has taken prompt action in letting the consumer know the deficiency.

Surrogate advertisement: The guidelines **completely disallow** any attempts to advertise products that are prohibited by law.

Advertisements Targeting Children: The guidelines forbid advertisements from exaggerating the features of a product or service in such a manner as to lead children to have unrealistic expectations. It also forbids any health or nutritional claims or benefits without being adequately and scientifically substantiated by a recognized body.

Further, advertisements targeting children shall not feature any personalities from the field of sports, music or cinema for products which require a health warning (for such advertisements) or cannot be purchased by children. The guidelines also require that advertisements including ‘chips, carbonated beverages and such other snacks and drinks’ **shall not be cast on channels exclusively meant for children**.

Disclaimer in Advertisements: Disclaimers in advertisements, in a way, limit the responsibility of the company. The guidelines stipulate that disclaimer **shall not attempt to hide material information** with respect to any claim made in such advertisements. The omission or absence is likely to make the advertisement deceptive. A disclaimer shall be in the **same language** as the claim made in the advertisement and the **font used in a disclaimer shall be the same** as that used in the claim.

Duty on Manufacturer: The guidelines also impose duties on the manufacturers, service providers and advertising agencies. They shouldn’t claim and make comparisons in an advertisement which relate to matters of objectively ascertainable facts. Moreover, the advertisement must be framed to gain the trust of the consumers and not to “abuse the trust of consumers or exploit their lack of experience or knowledge”.

Due Diligence by Endorsers: The guidelines state that the endorsements should reflect the genuine, reasonably current opinion of the endorser regarding their representation. Such endorsement must be based on **adequate information or experience with the goods or services and must not be deceptive**. Foreign professionals are barred from making endorsements in all circumstances where Indian professionals are barred.

Penalties: CCPA can impose penalty of up to INR 10 lakh on manufacturers, advertisers and endorsers for any misleading advertisements. For subsequent contraventions, CCPA may impose a penalty of up to INR 50 lakhs. The Authority can prohibit the endorser of a misleading advertisement from making any endorsement for up to 1 year and for subsequent contravention, prohibition can extend up to 3 years.

What are other rules/ laws/organizations associated with regulation of advertisements in India?

The Advertising Standards Council of India (ASCI): It was established as a self regulatory mechanism of ensuring ethical advertising practices. ASCI is a voluntary Self-regulation council. The members comprise Advertiser's, Media, Advertising Agencies and other Professional/Ancillary services connected with advertising practice. ASCI entertain and dispose of complaints based on its Code of Advertising Practice ("ASCI Code").

Regulation of Advertisements in India

Various Legal Provisions related to Advertising Regulations

Laws Governing Media

- The Press Council Act, 1978
- Cable Television Network Rules, 1994
- Code for Commercial Advertising on Doordarshan and All India Radio
- The Information Technology (Intermediary Guidelines and Digital Media Ethics Code) Rules, 2021.

Laws Protecting Consumers

- Emblems and Names (Prevention of Improper Use) Act, 1950
- Young Persons (Harmful Publications) Act, 1956
- Companies Act, 1956
- Standards of Weight & Measures Act, 1976
- Indecent Representation of Women (Prohibition) Act, 1986
- Consumer Protection Act, 2019

Industry Specific Laws

- The Drugs and Cosmetics Act, 1940
- The Transplantation of Human Organs Act, 1994
- The Drugs and Magical Remedies (Objectionable Advertisements) Act, 1954
- The Prenatal Diagnostic Techniques (Regulation & Prevention of Misuse) Act, 1994
- Infant Milk Substitutes, Feeding Bottles and Infant Foods (Regulation of Production, Supply and Distribution) Act, 1992
- Cigarettes and other Tobacco Products (Prohibition of Advertisement and Regulation of Trade and Commerce, Production, Supply and Distribution) Act, 2003.

Created by | ForumIAS®

What is the significance of the New Guidelines on Regulation of Advertisements?

First, the guidelines **provide better clarity** to the existing rules and provisions. It defines 'bait advertisement', 'surrogate advertisement' and clearly provides what constitutes as 'free claim advertisements'. Further, the enforcement issues in existing advertisement laws have been addressed by the guidelines in as much as it imposes severe penalties.

Second, it will help in **upholding and protecting the rights of consumers** like **right to be informed**, **right to choose** and **right to be safeguarded** against unsafe products and services. These rights are often violated by sellers through misleading advertisements.

Third, several **preemptive provisions** have been laid down on advertisements targeting children. This has been done keeping in view the **sensitivity and vulnerability of children** and the severe impact advertisements make on the younger minds.

Fourth, the guidelines perform an essential function in bringing the Indian regulatory framework **at par with international norms and standards**. Further, the government is expected to come out with guidelines in consultation with industry representatives to curb fake reviews on e-commerce platforms.

Fifth, it gives a **framework for the industry stakeholders** to prevent misleading ads even by mistake.

What are the concerns associated with the Guidelines?

First, surrogate advertisements have been banned. However, there is ambiguity regarding brand extensions. A brand extension is **when a company uses one of its established brand names on a new product or new product category**. The Guidelines recognize advertisements of Brand extensions (provided they comply with other guidelines), there is no objective criteria prescribed to determine the validity/genuineness of such advertisements. This might have an impact on advertisement and thus sales of many branded products.

Second, in case of any ambiguity or dispute in interpretation, the decision of CCPA shall be final. This might lead to **increased litigation** and put further pressure on the Judiciary.

Third, the opinion is divided over the provisions related to celebrity endorsements vis-a-vis due diligence. Some experts believe, **celebrities lack technical knowledge to undertake due diligence**. Other critics argue that the **penalty (INR 10 Lakh) is too small for big celebrities** who charge crores of rupees for endorsements.

Fourth, a lot of claims made by advertisements are **unverifiable** (e.g., products may claim they make the child stronger, or taller). It is **difficult to define what is misleading**. The ambiguity might increase consumer complaints.

What lies ahead?

First, some provisions of the guidelines **are bound to face litigation in courts**. For instance, guidelines prohibit advertisements of chips, carbonated beverages and such other snacks on exclusive children channels. It remains to be seen whether it can survive a challenge under Article 14 and Article 19(1)(g) of the Indian Constitution. Many experts believe that it impinges upon the right of the channels such as Cartoon Network to earn revenue from such advertisements.

Second, the advertisers, too, must take a cue from the guidelines and **impose self-regulation** to comply with the same.

Third, while the guidelines must be hailed as a step in the right direction, there is a definite need to **ensure their implementation** in the spirit they have been drafted with. This will require strengthening of **consumer courts at District, State and National level** coupled with massive awareness campaigns on the lines of **Jago Grahak Jago**.

Conclusion

The latest guidelines aim to protect consumers' interest by bringing in more transparency and clarity in the way advertisements are being published. They will enable the consumers to make informed decisions based on facts rather than false narratives and exaggerations. The guidelines are pathbreaking because they fill significant consumer protection gaps while explicitly outlining advertiser duties.

Source: [The Hindu](#), [The Hindu](#), [Financial Express](#), [PIB](#), [FICCI](#)

Union Government's 1 Million Job Promise: Need and Challenges – Explained, pointwise

Introduction

India has been witnessing rising levels of inflation and unemployment since the onset of COVID-19 pandemic. The situation has been worsened by the ongoing Russia-Ukraine conflict. Many economists are saying that poor Indians are facing economic distress due combined impact of unemployment and inflation. To ease the situation, the Union Government has recently announced a plan to recruit 1 million (10 lakh) people in various Government Ministries and Departments over the next 1.5 years. While the decision to create 1 million jobs by the Government is being welcomed, the move has raised several concerns. There has been criticism of Government taking up the role as principal employer in the economy, instead of undertaking economic reforms to create more jobs in the economy.

What is the current situation of unemployment in India?

The leaked Periodic Labour Force Survey (PLFS) in 2018 revealed that India's unemployment rate was the highest (6.07%) in four decades.

The latest PLFS suggests that the numbers now are not so drastic, with the overall unemployment rate at 4.2% in 2020-21 compared to 4.8% in 2019-20.

In terms of the more widely used statistic internationally, the current weekly status of unemployment, the figure of 7.5% for all persons in 2020-21 is still worrying.

What is the current status of recruitment by the Union Government?

According to the report of the 7th Pay Commission, the total sanctioned strength of the Union Government fell from 41.76 lakh in 1994 to 38.9 lakh in 2014.

In 2021, the strength of the Union Government stood at 34.5 lakh as per the Union budget. Moreover, between 2006 and 2014, the average recruitment in the Union Government was a little over one lakh each year.

Between 2017-18 and 2021-22, the Staff Selection Commission (SSC) and the Union Public Service Commission (UPSC) recruited only 1.74 lakh and 24,836 candidates.



What is the rationale behind providing 1 million jobs?

Changing Structure of Indian Economy: The services sector has rapidly expanded. However, the sector tends to be less employment intensive. Moreover, most of the jobs require skilled workforce. The gig economy does employ the unskilled but fails to create enough jobs for the millions entering the labour force each year. In a similar way, India has not been able to create a robust labour intensive manufacturing sector that is able to absorb the low and semi-skilled sections of the labour force.

Accumulation of Vacancies: A significant number of posts in the government sector are already lying vacant which is impairing governance. The latest data showed that there were 8.86 lakh vacant jobs among all Union government civilian posts as of March 2020.

Demographic Dividend: India has the largest working force in the world. The demographic dividend window will last till 2040s. Finding productive employment for its youth is an imperative for India, else this dividend can easily be turned into a demographic disaster.

Mitigating the Impact of Pandemic: The pandemic led to large loss of livelihoods. Further, it led to a shift of employment into lower productive and unpaid jobs away from salaried employment. Wage rates have continued to remain lower for those employed in either salaried jobs or self-employed compared to the pre-pandemic period. Thus creation of jobs by the government will help in providing some relief.

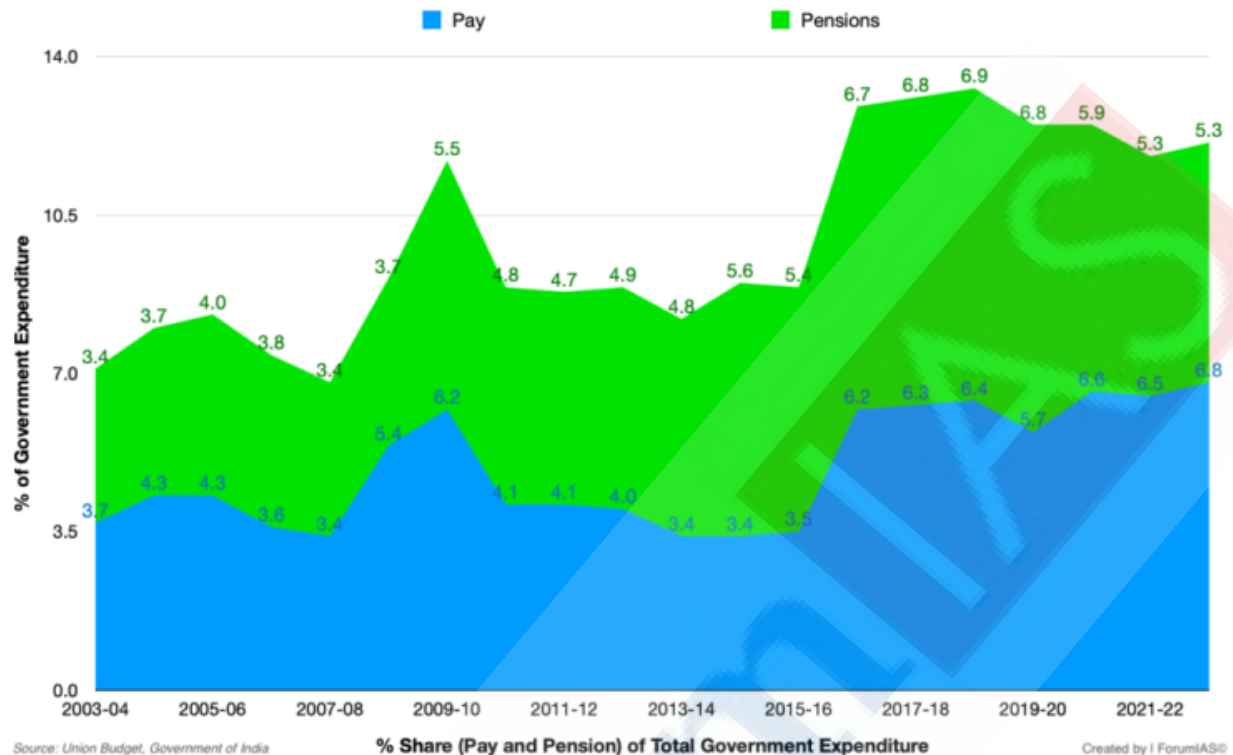
Global Uncertainties: The ongoing Russia-Ukraine conflict and a looming threat of global recession would reduce consumer demand and consequently poor economic activity. Unemployment is expected to get worse. In this scenario, the creation of 1 million jobs by the government would be beneficial in mitigating the impact.

What are the challenges associated with the 1 million jobs proposal?

Lack of Absorptive Capacity of Government: The recent recruitment data shows that government employment actually forms a small proportion of the formal labour force, and an even smaller part of the total labour force. Thus, having 1 million jobs in the Government will not address the problem of widespread unemployment.

Against the notion of Minimum Government Maximum Governance: This expansion in public sector jobs poses a challenge to the promise and goal of minimum government. Expansion of 1 million jobs may not be feasible especially in the era of digital technology and automation.

Budgetary Constraints: The real danger of this mega-recruitment drive is that capital expenditure may be curtailed to make way for higher salary budgets. A reduction in capital expenditure will in turn reduce creation of productive assets that would have generated much more employment.

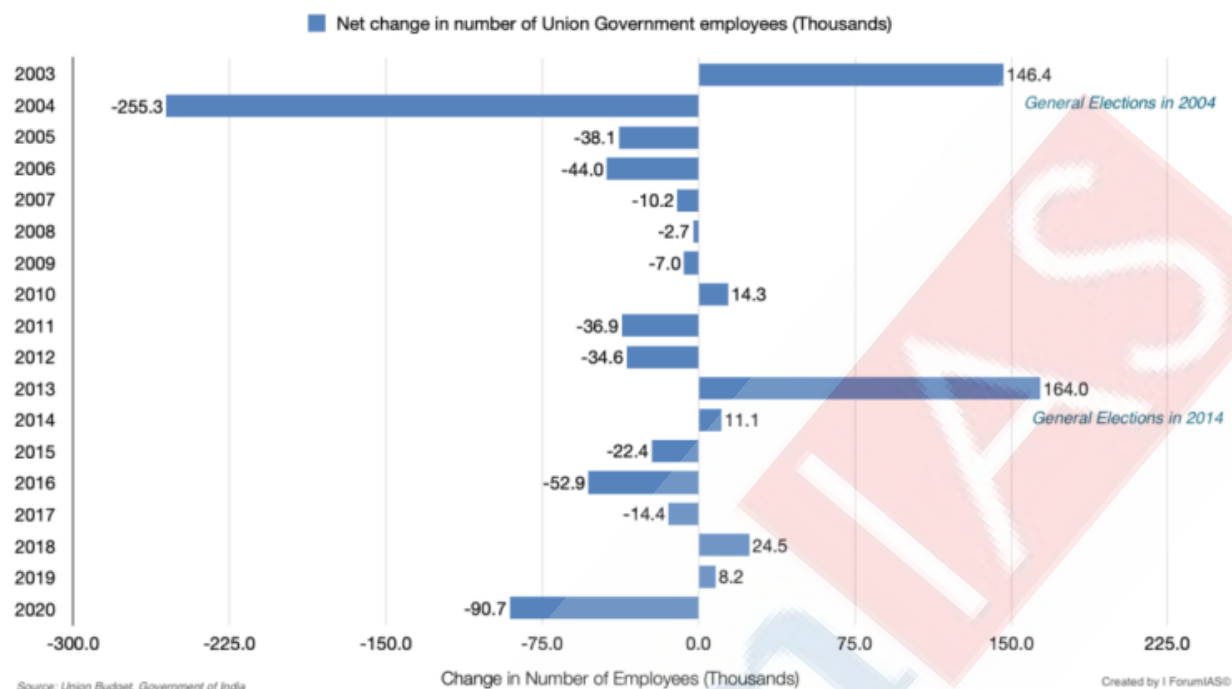


The combined expenses on Salaries and Pensions has increased from 7.1% of Government expenditure in 2003-04 to 12.1% in 2022-23 (Budget Estimate). This reduces space for more productive Capital Expenditure by Government.

Discouraging Past Performance: On many occasions the government has failed to deliver on its past performances. Further certain inefficiencies still exist in the recruitment process due to which government exams get delayed and the result lingers on for years due to court cases. Thus **wasting crucial years of India's youth**. The capacity of recruitment agencies (UPSC, SSC, RRB) may not be enough to recruit so many employees in the short timespan e.g., the three bodies recruited 4.44 lakh persons over a period of 5 years (Refer graph above). Further, a **National Recruitment Agency set up in 2020** was expected to subsume the role of multiple government recruiting agencies but is **not yet functional**.

Demand Supply Mismatch: While the target is to create 1 million jobs but demand is much more than that. With roughly 12 million individuals entering the working age population each year, around 6 million jobs need to be created each year, assuming a labour force participation rate of 0.5. Thus, the Government's 1 million jobs plan will have very little impact on wider unemployment in the economy.

Timed for Elections: Several critics have criticized the move as a populist measure focused on General Elections 2024. Past trends indicate that the strength of Union Government increases a year before General Elections. The strength is trimmed in the interim periods.



What should be the approach going forward?

First, the Government should also focus on **expanding the social security net** apart from creating 1 million jobs. This includes enhancing days under MGNREGA, introducing an urban MGNREGA and taking a decision on Universal Basic Income.

Second, employment opportunities for those wanting to shift out of agriculture also need to be factored in. This requires creating jobs at a scale which only the private sector can do efficiently.

Third, the **private sector should be given greater support in form of subsidies and tax rebates**, especially the budding start-ups which have the potential to generate multiple jobs. Effective implementation of current schemes like MUDRA, Start-up India etc. could be a game changer in this regard. Further, the **commercial dispute redressal mechanisms need to be strengthened** in order to attract more investment into the industrial sector. Currently India has 163rd rank in enforcing contracts as per Ease of Doing Business reports.

Fourth, the Government must also focus on skilling and educating the youth as per the demand of the 21st century. They should be **encouraged to learn new age skills** like 5G technology, Big Data, Digital Marketing etc. that would enhance their probability of employment.

Fifth, the schools and colleges must enhance efforts on **inculcating an entrepreneurial mindset in the students**. This will ensure that students become job givers rather than job seekers.

Sixth, the **inefficiencies of government setup** (corruption, maladministration, red tapism etc.) must be addressed. This will ensure optimum utilization of resources and ensure creation of more jobs with minimum inputs. Further, the Government should **avoid sudden introduction of reforms and policies**. For instance, since 2017, the dual impact of demonetisation and the rushed introduction of Goods and Services Tax has caused many small and medium businesses to shut down.

Seventh, the higher officials of recruitment agencies need to **maintain highest standards of efficiency and merit in the recruitment process** so that exams are conducted in a fair manner without delay.

Conclusion

The Union Government is at best a marginal source for employment generation and considering the scale of the challenge, this recruitment drive will not be enough. There is a need to acknowledge that enough jobs should be created by the private sector which should be the principal driver of employment generation.

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

IPBES Report: Findings, Concerns and Suggestions – Explained, pointwise

Introduction

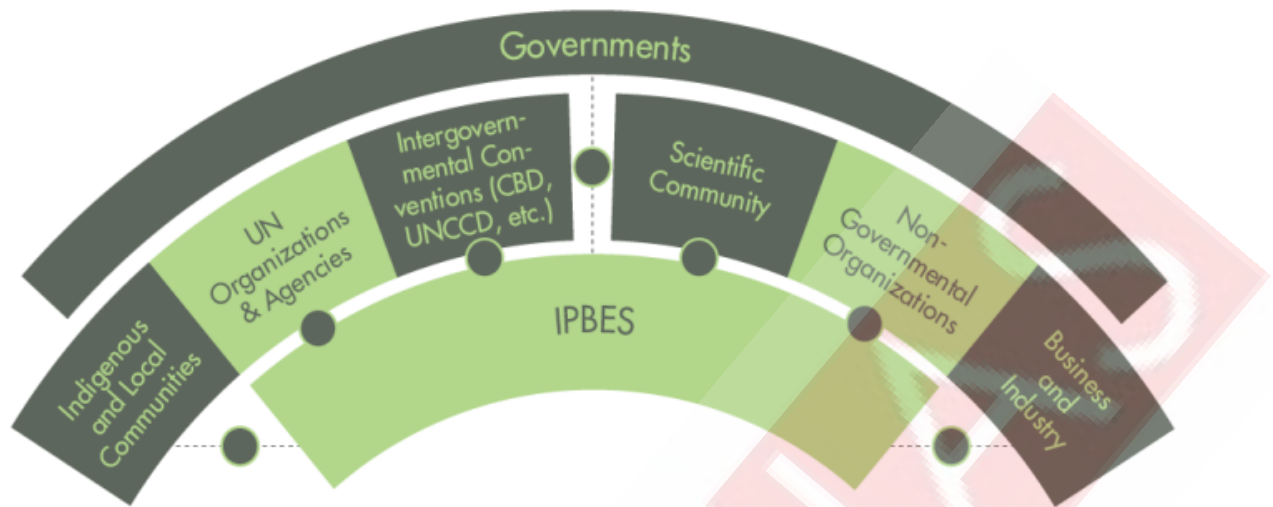
The Convention on Biological Diversity defines ‘sustainable use’ as the use of components of biological diversity in a way and at a rate that does not lead to the long-term decline of biological diversity. This would help in maintaining its potential to meet the needs and aspirations of present and future generations. The recently released Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services (IPBES) Report offers insights, analysis and tools for **sustainable use of wild species**. The Report reminds the global community how much human beings are interdependent with all living beings and why it’s important to conserve them. The report comes against the backdrop of the stark findings of the IPBES in May, 2019 that shows around 1 million animal and plant species are threatened with extinction.

What is IPBES?

The Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services (IPBES) is an independent intergovernmental body. It aims to strengthen the science-policy interface for biodiversity and ecosystem services for the conservation and sustainable use of biodiversity, long-term human well-being and sustainable development.

It was established in Panama City, on 21 April 2012 by 94 countries. It is not a United Nations body. However, at the request of the IPBES Plenary and with the authorization of the UNEP Governing Council in 2013, the United Nations Environment Programme (UNEP) provides secretariat services to IPBES.

It currently has close to 140 member States. A large number of NGOs, organizations, conventions and civil society groupings also participate in the formal IPBES process as observers.



Source: IPBES

What does IPBES do?

The work of IPBES can be broadly grouped into four complementary areas:

Assessments: On specific themes (e.g. “Pollinators, Pollination and Food Production”); methodological issues (e.g. “Scenarios and Modelling”); and at both the regional and global levels (e.g. “Global Assessment of Biodiversity and Ecosystem Services”).

Policy Support: Identifying policy-relevant tools and methodologies, facilitating their use, and catalyzing their further development.

Building Capacity & Knowledge: Identifying and meeting the priority capacity, knowledge and data needs of our member States, experts and stakeholders.

Communications & Outreach: Ensuring the widest reach and impact of IPBES’s work.

About the IPBES Report

The report identifies **five broad categories of ‘practices’** in the use of wild species: Fishing; Gathering; Logging; Terrestrial Animal Harvesting (including hunting); and Non-extractive practices, such as observing. For each practice, it examines specific ‘uses’ such as for food and feed; materials; medicine; energy; recreation; ceremony; learning and decoration.

It provides a detailed analysis of the trends in each, over the past 20 years. It indicated the increasing use of wild species but added that its sustained use has been varied.

What are the Key Findings of the IPBES Assessment Report?

Dependence on Biodiversity

Around **70% of the world’s poor are directly dependent on wild species**. 50,000 wild species of plants, animals, fungi and algae meet the needs of billions of people globally. One in five people rely on wild species for **income and food**.

Around 2.4 billion people worldwide rely on wood for cooking and 880 million, particularly in developing countries, log firewood or produce charcoal. **Logging for energy accounts for 50%**

of all wood consumed globally, and 90% of timber harvested in Africa. Even though the use of wood for fuel is declining in most regions, it is increasing in sub-Saharan Africa.

Certain species have cultural importance as they offer multiple benefits that define tangible and intangible features of **people's cultural heritage**.

The use of wild species is also a source of **culturally meaningful employment** for such communities and they have engaged in the trade of wild species and materials since millennia.

Threat to Biodiversity

The global rate of species extinction is already at least tens to hundreds of times higher than the average rate over the past 10 million years and is accelerating.

Around 12% of tree species in the wild and 1,341 wild mammal species globally are threatened by **unsustainable logging and hunting**. More than 25% of the world's forests are subject to industrial logging.

Unsustainable gathering is one of the main threats for several plant groups, notably cacti, cycads, and orchids as well as other plants.

Around 34% of marine wild fish stocks in the world are **overfished**. Further, Bycatch has led to a steep decline in the number of sharks and ray species since the 1970s.

Bycatch refers to incidental capture and mortality of non-target marine animals during fishing.

The report noted that indigenous people and local communities used local knowledge, practices and spirituality for the sustainable use of wild species. They **respected nature and only took what they needed**. This ensured that healthy populations of wild species were maintained.

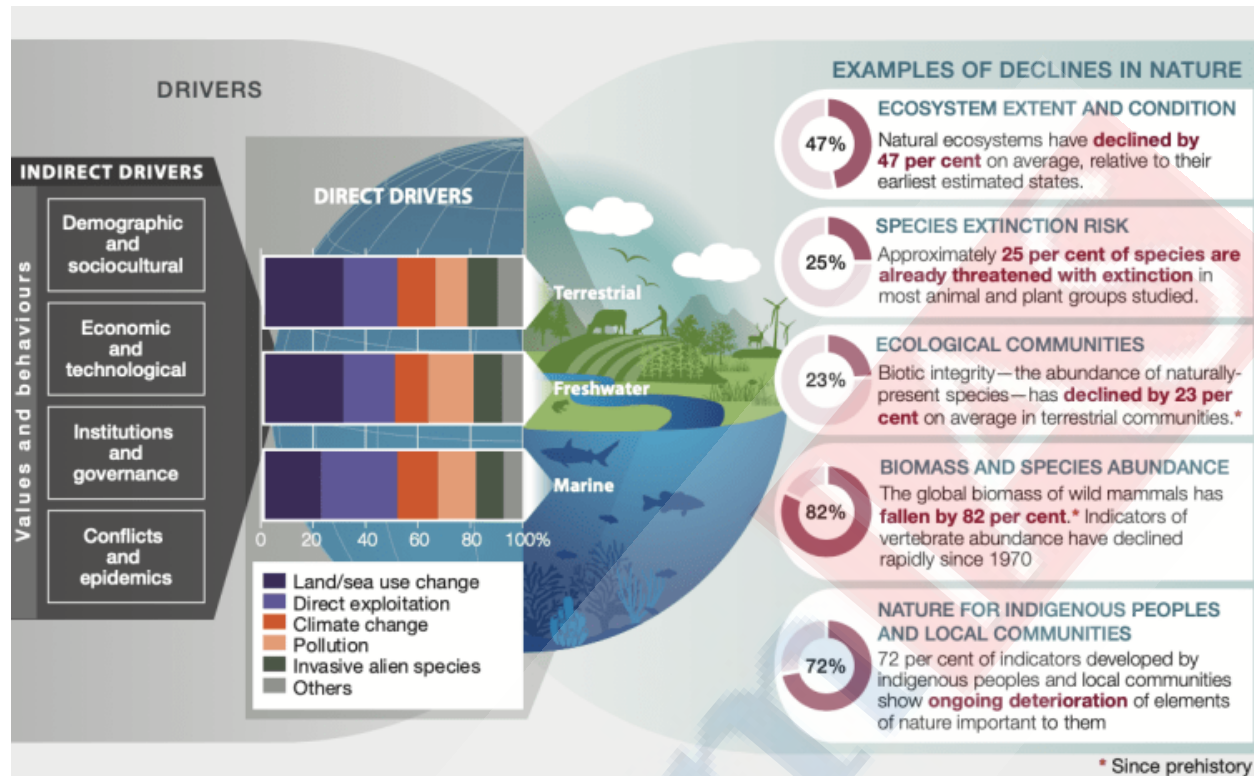
What are the reasons behind depletion of biodiversity?

First, overexploitation is the primary reason for the depletion of biodiversity. The rate of usage is much more than the replenishment rate that has pushed many species on the verge of extinction.

Second, it assessed that **changes in climate, sea and landscapes, pollution and invasive alien species** impact the abundance and distribution of wild species.

Third, trade in wild plants, algae and fungi for food, medicine, hygiene, energy and ornamental use is increasing. Further, the **illegal trade** in wild species, worth up to US\$ 199 billion annually, accounts for the world's third largest class of illegal trade. Timber and fish make up the largest volumes and value of illegal trade in wild species.

Fourth, with **lack of alternatives**, people are often forced to further exploit wild species already at risk. For instance, due to lack of alternatives, still 2.4 billion people rely on fuelwood for cooking.



Source: IPBES Report. **Drivers of Decline in Nature.** The direct drivers (**land-/sea-use change; direct exploitation of organisms; climate change; pollution; and invasive alien species**) result from an array of underlying societal causes. These causes can be demographic (e.g., human population dynamics), sociocultural (e.g., consumption patterns), economic (e.g., trade), technological, or relating to institutions, governance, conflicts and epidemics. They are called indirect drivers and are underpinned by societal values and behaviours. Land- and sea-use change and direct exploitation account for more than 50% of the global impact on land, in fresh water and in the sea.

What steps have been taken to protect Biodiversity?

National

Wildlife Protection Act, 1972: It is an Act of the Parliament of India enacted for protection of plants and animal species. It has 6 schedules that provide varying degrees of protection to species.

Wildlife Crime Control Bureau (WCCB): It is a statutory multi-disciplinary body. It functions under the Ministry of Environment and Forests. Its responsibilities include combating organized wildlife crime in the country.

Global

IUCN Red List: It is a critical indicator of the health of the world's biodiversity. Far more than a list of species and their status, it is a powerful tool to inform and catalyze action for biodiversity conservation and policy change.

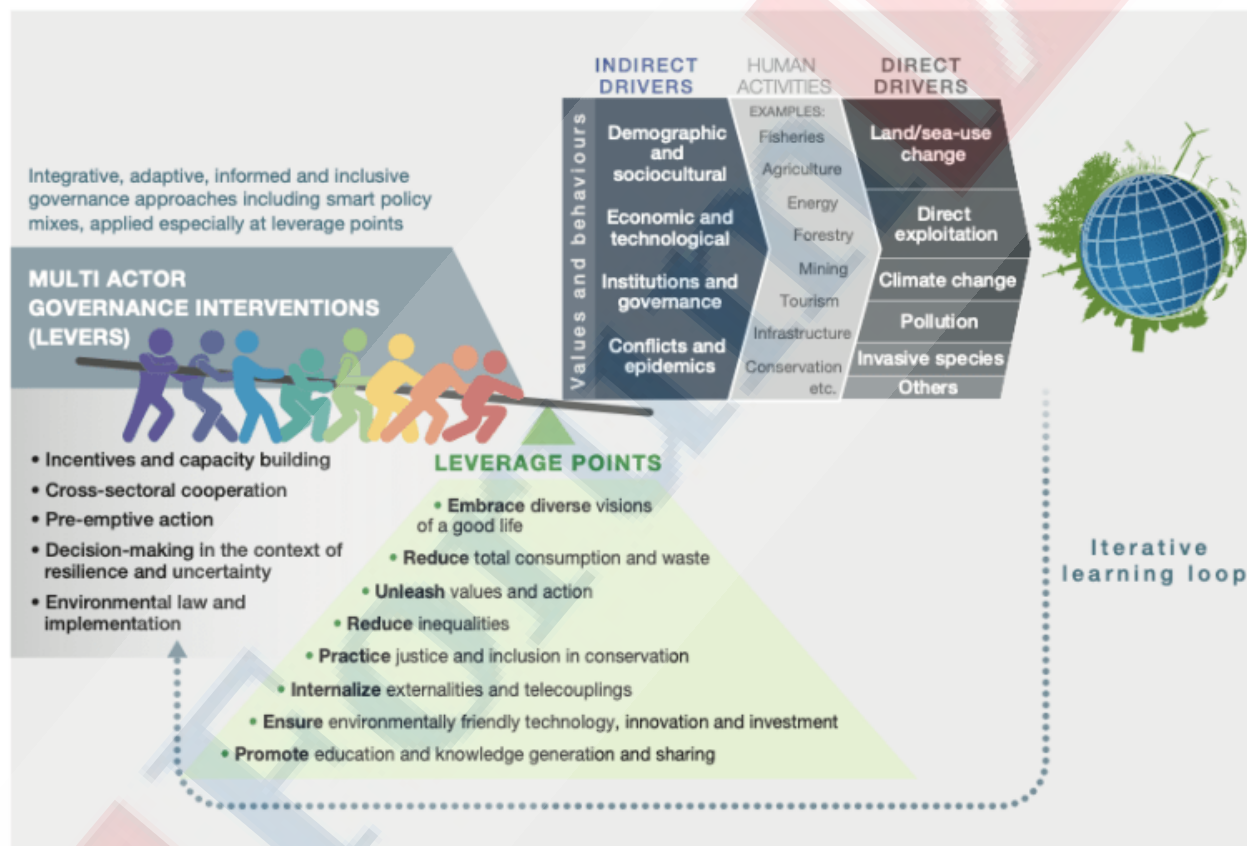
Convention on International Trade in Endangered Species (CITES): It is an international agreement between governments. CITES regulates international trade in specimens of species of

wild fauna and flora based on a system of permits and certificates issued under certain conditions.

Sustainable Development Goals: Countries have adopted 17 goals that need to be achieved by 2030. Many of them like SDG 13 (climate action), SDG 14 (Life below water), SDG 15 (Life on land) etc.. focus on environment and species protection.

What are the Recommendations of the IPBES Report?

The Report observes that Nature can be conserved, restored and used sustainably while simultaneously meeting other global societal goals through urgent and concerted efforts **fostering transformative change**. The Sustainable Development Goals and the 2050 Vision for Biodiversity cannot be achieved without transformative change. Transformative change is facilitated by **innovative governance approaches** that incorporate **integrative, inclusive, informed** and **adaptive governance**.



Source: IPBES Report. Five main interventions ('levers') can generate transformative change by tackling the underlying drivers of the deterioration of nature: (1) **Incentives and Capacity-building**; (2) **Cross-Sectoral Cooperation**; (3) **Pre-emptive Action**; (4) **Decision-making in the context of Resilience and Uncertainty**; and (5) **Environmental Law and Implementation**.

Feeding humanity and enhancing the conservation and sustainable use of nature are **complementary and closely interdependent goals**. Both can be advanced through **sustainable agriculture, aquaculture and livestock systems**, the **safeguarding of native species and habitats**, and **ecological restoration**.

The Report observes that **marine ecosystems and fisheries can be conserved through ecosystem-based approaches** to fisheries management, effective quotas, marine protected areas, protecting and managing key marine biodiversity areas and reducing run-off pollution into oceans. Urgent steps are necessary to prevent, deter and eliminate illegal and unregulated fishing.

The Report emphasises on **cost-effective nature-based solutions** for meeting the Sustainable Development Goals in cities. This is crucial for global sustainability. Increased use of **green infrastructure** can help to advance sustainable urban development. Sustainable solutions include retrofitting green and blue infrastructure, creating and maintaining green spaces and biodiversity-friendly water bodies, urban agriculture, vegetation cover in existing urban and peri-urban areas and new developments. Green infrastructure will help in flood protection, temperature regulation, cleaning of air and water, locally sourced food and health benefits etc.

The IPBES Report emphasises that **recognition of the knowledge, innovations, and practices of indigenous peoples and local communities** can help in conservation, restoration and **sustainable use of nature**. Ensuring their inclusion and **participation in environmental governance** will enhance their quality of life.



Source: IPBES Report. Traditional knowledge helps in conservation through measures like habitat management, wild species managements, restoration measures, preventing forest loss etc.

Finally, the Report calls for a **change in the global financial and economic systems** that have a narrow view of economic growth. Focus has to be on **reducing inequalities, overconsumption and waste** and **addressing environmental impacts**. It would entail a shift beyond standard economic indicators such as GDP to include those able to capture more holistic, long-term views of quality of life.

What should be the approach going ahead?

First, the local communities should be made a **key stakeholder in management of wildlife resources**. The Government should ensure that their traditional knowledge is judiciously used to ensure sustainable usage of wild species. In this regard, effective implementation of the Forests Rights Act, 2006 is a must.

Second, the Government must ensure that **environmental litigation** is strengthened by establishing more benches of National Green Tribunals across the country. This will promote environmental consciousness and encourage people to file complaints against the violators.

Conclusion

Addressing the causes of unsustainable use and, wherever possible, reversing these trends should be the priority of Governments at Local, National and International level. This will result in better outcomes for wild species and the people who depend on them thereby moving towards attainment of sustainable development.

Source: [Down to Earth](#), [Down to Earth](#), [Indian Express](#), [The Times of India](#), [IPBES](#)

UPI and Digital Payments in India – Explained, pointwise

Introduction

The Unified Payments Interface (UPI) is a convenient way of transferring funds from one bank account to another. It has gained huge popularity since its launch in 2016. The popularity is testified by its adoption from tiny roadside shops to large consumer brands. In May 2022, the UPI processed payments worth INR 10,41,520 Crore and **crossed INR 10 Lakh Crore threshold in monthly transactions for the first time since its launch**. More than 40% of all retail digital payments (non-cash and non-paper payments) in India happen through UPI now.

About the evolution of Digital Transactions in India

In 1996, Industrial Credit and Investment Corporation of India (ICICI) introduced online banking services in India, by using electronic banking at its branches. Later in 1999, banks such as HDFC, IndusInd, and Ci launched online banking facilities. The trend continued to grow with increasingly more banks launching net banking services in India. This marked the beginning of the digital transactions era in India – several new banks started offering services to users.

Types of Digital Payment Systems in India

- **Banking Card:** Banking Cards were launched by the Central Bank of India in 1980, in the form of the first credit card. MasterCard was introduced in 1988. In 1993, several PSU banks started issuing credit cards.
- **Unstructured Supplementary Service Data (USSD):** It was launched in 2016. It is a mobile banking facility that enables users to use mobile banking without smartphones or an Internet connection.
- **Aadhaar Enabled Payment Systems (AEPS):** It is a bank-led model which allows online interoperable financial inclusion transactions at point-of-sale (PoS) through the business correspondent of any bank using the Aadhaar authentication.
- **Mobile Wallet:** This is a virtual wallet that stores payment card information on a mobile device.
- **Internet Banking:** This is an online banking method that enables customers of a bank or financial institution to carry out transactions through a portal.

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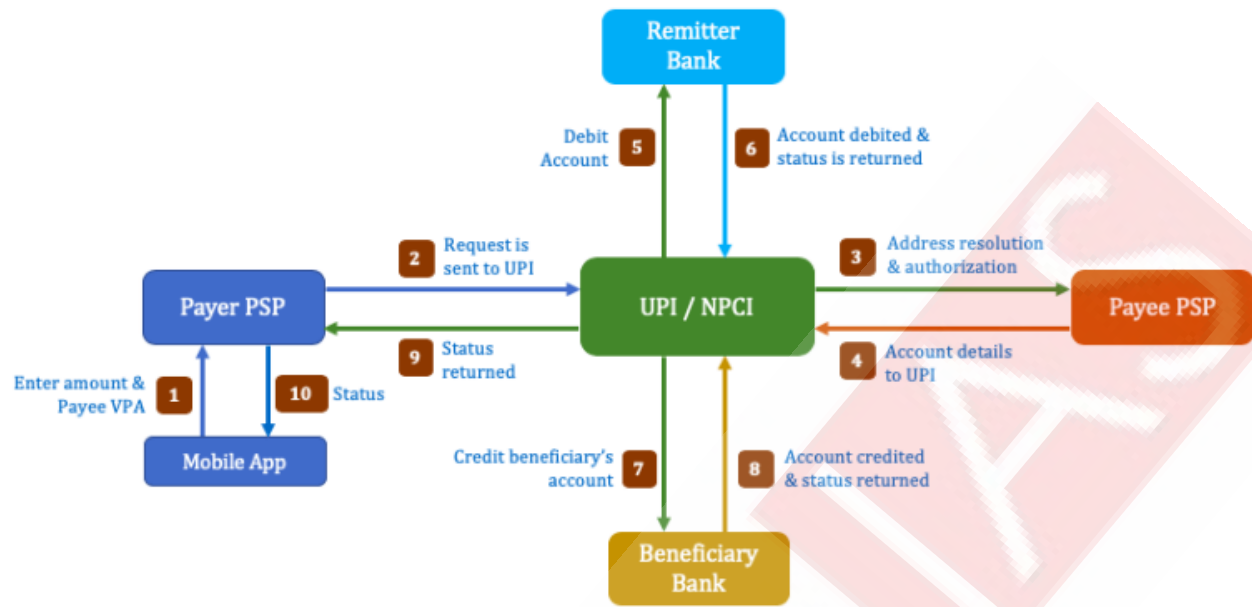
About UPI

The UPI was launched in 2016 and is operated by the National Payments Corporation of India (NPCI). It is a system that powers multiple bank accounts into a single mobile application. The NPCI was formed in 2009 as an initiative of the Reserve Bank of India (RBI) and the Indian Banks' Association (IBA) with the goal to create a robust payment and settlement infrastructure.

UPI operates on top of the Immediate Payment Service (IMPS) which was created by the NPCI for immediate fund transfers.

What is IMPS?

- Immediate Payment Service (IMPS) is a service provided by banks to ensure real-time interbank funds transfer. In NEFT, transactions are cleared in batches, but in IMPS transactions are cleared instantaneously. In IMPS, the funds transfer is thus, instantaneous.
- There is limit of INR 2 Lakh per transaction on IMPS. NEFT has no such limit.
- The IMPS facility can be accessed through multiple channels, such as mobile phone, ATM, the internet, and SMS.



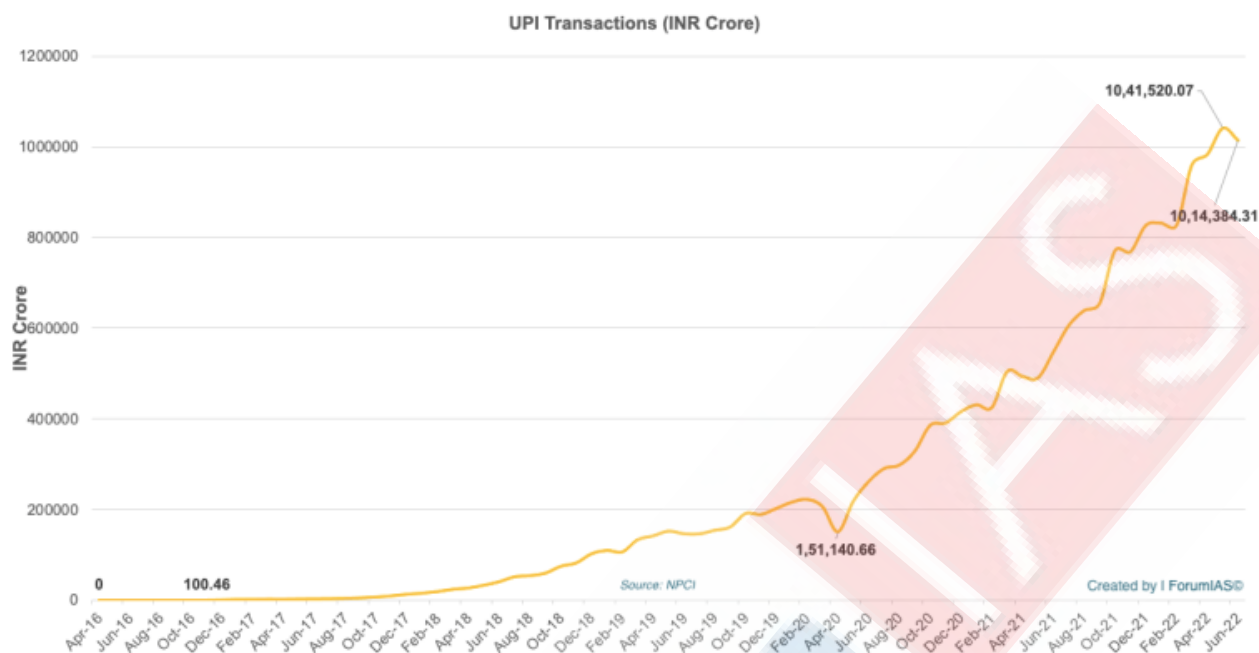
Working of the UPI

What is the current status of UPI and Digital Transactions?

'Prime Time For Real Time 2022' report states that India's real-time payments include the Immediate Payment Service (IMPS) and Unified Payments Interface (UPI). Both of them have seen increased usage in the last few years.

India accounted for the largest number of real-time transactions in 2021 (48.6 billion). The next highest transactions were in China (18 billion transactions). Thus, transactions in India were 2.7 times that of China. The magnitude is even more contrasting when compared with other countries e.g., the number of transactions in India were almost **seven times greater than the combined real-time payments volume of the world's leading economies**: the US, Canada, the UK, France and Germany (7.5 billion).

The report also forecasted that the share of all transactions occurring via real time instrument was expected to increase to 70.7% in 2026 from the present 31.3%.



The number of banks that are live on UPI has increased from 21 in April 2016 to 330 in June 2021. The number of transactions has reached historic high of 5.96 billion in May 2022 before falling to 5.86 billion in June 2022.

Why are the reasons for wide adoption of UPI?

First, there is no Merchant Discount Rate (MDR) charges for merchants that are levied on card based transactions. This incentivizes merchants to accept UPI transactions.

Second, the UPI is convenient to use. The users only require a smartphone connected to the internet. Users prefer UPI instead of using devices like the Point-of-Sale card-swiping machines.

Third, the UPI is supported by a **robust ecosystem** which makes funds transfer seamless and efficient. This includes the presence of high-speed internet in many parts of the country, technologies that power a smartphone, cloud computing and modern software engineering technologies that fulfill a transaction in a few seconds.

Fourth, it offers a **significant degree of security** to avoid misuse. The security of a UPI transaction is tied to the user's authentication with the mobile phone. There is a mobile personal identification number (MPIN) for the UPI application and there is one more layer of security when the bank's online transaction PIN is to be keyed in as part of every UPI transaction. In case a mobile number is blocked due to theft, then the UPI transactions on that mobile number will also be halted.

Fifth, the **COVID-19 pandemic** significantly boosted digital transactions in wake of SMS (Sanitize, Mask and Social Distance) protocols and lockdowns. This also made UPI more popular with the masses.

What recent innovations have been done in UPI?

The NPCI has come up with multiple new innovations over the past few years: recurring payments for monthly bills, international payments, linking UPI to credit cards etc. Further it has introduced **123PAY** that allows people without smartphones to use UPI using missed calls.

Introduction of Dynamic QR codes. It allows one-time payment by letting a merchant generate a QR (Quick Response) code that is valid for just that specific transaction and many more features. The dynamic QR code is a great boost to security and trust because there is no risk of someone tampering with a static QR code. A static QR code is widely prevalent.

What are the benefits associated with UPI?

First, widespread adoption of real-time payments helped Indian businesses and consumers save approximately US\$ 12.6 billion in payment transaction cost. Digital payments **improve the cash flow** situation of the businesses as the payments are instantaneous. It helps increase the number of transactions and thus economic activity. It also **unlocked** US\$ 16.4 billion or 0.56% of the **Indian Gross Domestic Product (GDP) output**.

Second, with digitalization, **the amount of black money in the market can be reduced** leading to greater compliance and more tax revenue.

Third, it **enhanced consumer faith in digital transactions** and encouraged them to shun the usage of cash.

Fourth, The UPI has had a **huge impact on the banks and the fintech industry**. It provides banks with a low-cost alternative to cash and helps them save on merchant onboarding costs.

The data acquired through digital transactions also enables banks to market other services, have a better understanding of the spending pattern, and serve consumers better. The **open architecture helps fintech firms to drive innovation** and develop newer products and unique services.

What are the challenges in further scaling-up UPI?

First, some experts fear it would be **difficult to sustain UPI in the long run** without levy of MDR to fund its infrastructure. Currently, neither customer nor merchant pays any extra price.

Second, although the use of cash has decreased since the advent of UPI, cash transactions are still significant. People **still prefer to use cash** due fear of tax terrorism and its greater acceptance as a mode of payment.

Third, still there is **not 100% penetration of internet and smartphones** amongst the population which makes it nearly impossible to do UPI transactions.

Fourth, there is a **lack of digital literacy** in masses due to which they are unable to use the UPI system. Further, **use of mainly english language** in UPI apps reduces their adoption.

What steps can be taken going ahead?

First, it is time to accelerate efforts and expand UPI's impact **beyond the top-tier metropolitan areas**, and replicate its success for the benefit of the entire country, especially rural areas.

Second, cost savings from the reduction in hassles and overheads for banks (by supporting UPI) can be used to bear the cost of operating UPI in the long run.

Third, initiatives like **Bharat Net project** (for internet connection) and **PMGDisha** (for digital literacy) should be implemented with full vigor and support.

Fourth, India **must share this technology with fellow countries** in order to earn additional forex and also to enhance its soft power across the globe. UPI has already been rolled out in UAE, Singapore and Nepal.

In 2019, Google requested the U.S. Federal Reserve to develop a solution similar to India's UPI citing the thoughtful planning, design and implementation behind it. India can support the U.S in this regard.

Conclusion

India is the poster child for real-time payments and a shining example of how a coordinated, collective, nationwide effort can unlock huge economic and social potential. Keeping this in mind, the reach and acceptability of UPI need to be enhanced further to further unlock economic value.

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

The UN World Population Prospects Report and Population Issues in India – Explained, pointwise

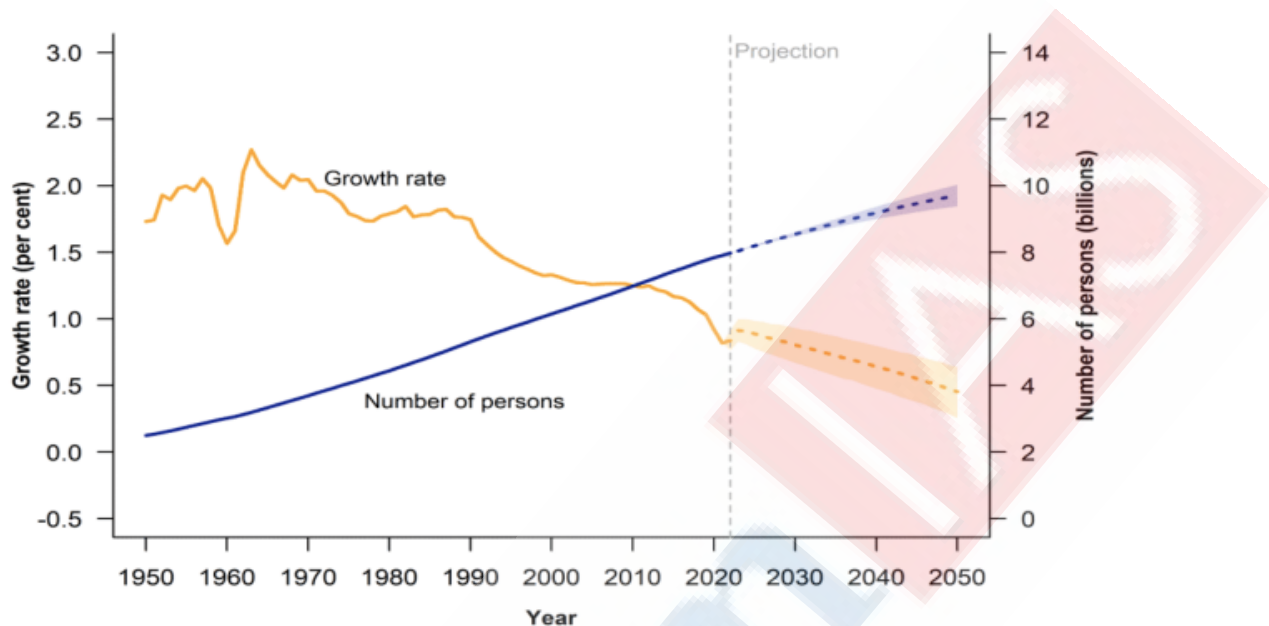
Introduction

The UN World Population Prospects Report 2022 is the 27th edition of the official United Nations population estimates and projections. The Report has presented population estimates from 1950 to the present for 237 countries or areas, underpinned by analyses of historical demographic trends. This latest assessment considers the results of 1,758 national population censuses conducted between 1950 and 2022, as well as information from vital registration systems and from 2,890 nationally representative sample surveys. The Report estimates that India is set to replace China as the country with highest population. This has brought issues related to population back into focus.

What are the Key Findings of the World Population Prospects Report?

World Population: The world's population continues to grow, but the pace of growth is slowing down. The global population is expected to grow to around 8.5 billion in 2030, 9.7 billion in 2050 and 10.4 billion in 2100. In 2020, **the global growth rate fell under 1% per year for the first time** since 1950.

Global population size and annual growth rate: estimates, 1950-2022, and medium scenario with 95 per cent prediction intervals, 2022-2050



Source: UN World Population Prospects Report, 2022. Since 1975 the world has been adding another billion people every 12 years. 7 billion milestone was passed in 2011 and 8 billion will be crossed in 2022. While the rate of absolute growth is similar to previous decades, the growth rate continues to fall. As global fertility rates continue to fall, this rate will continue to fall.

Regional Variation in Rates of population growth: More than half of the projected increase in global population up to 2050 will be concentrated in just eight countries. This includes the Democratic Republic of the Congo, Egypt, Ethiopia, India, Nigeria, Pakistan, the Philippines and the United Republic of Tanzania. The 46 least developed countries (LDCs) are among the world's fastest-growing.

Ageing Population: The population of older persons is increasing both in numbers and as a share of the total. The share of the global population aged 65 years or above is projected to rise from 10% in 2022 to 16% in 2050.

Working Age Population: A sustained drop in fertility has led to an increased concentration of the population at working ages (between 25 and 64 years).

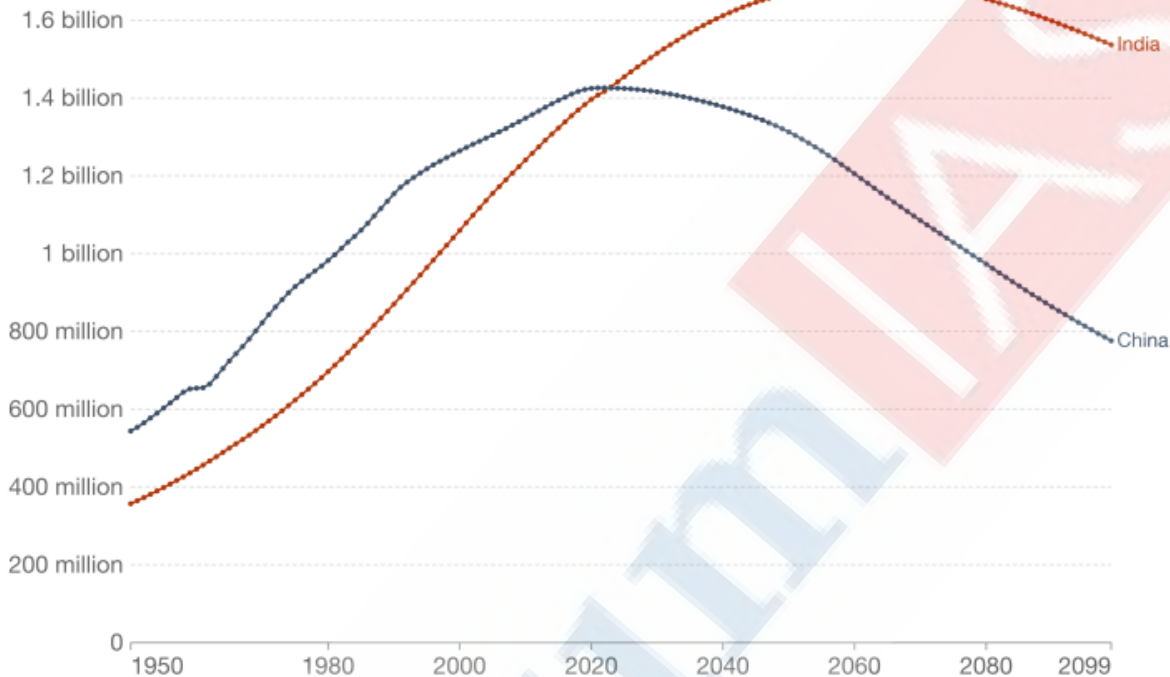
International migration: For high-income countries between 2000 and 2020, the contribution of international migration to population growth (net inflow of 80.5 million) exceeded the balance of births over deaths (66.2 million). Over the next few decades, migration will be the sole driver of population growth in high-income countries. Migration could be driven by economic opportunities or security purposes.

Global life expectancy: It reached 72.8 years in 2019, an improvement of almost nine years since 1990. Further reductions in mortality are projected to result in an average global longevity of around 77.2 years in 2050. Yet in 2021, life expectancy for the least developed countries lagged seven years behind the global average.

Findings Specific to India: India is projected to surpass China as the world's most populous country in 2023. At present, India's population is 1.412 billion compared to China's 1.426 billion.

Population, 1950 to 2099

Projections from 2022 onwards are based on the UN's medium-fertility scenario.



Source: United Nations World Population Prospects (2022)

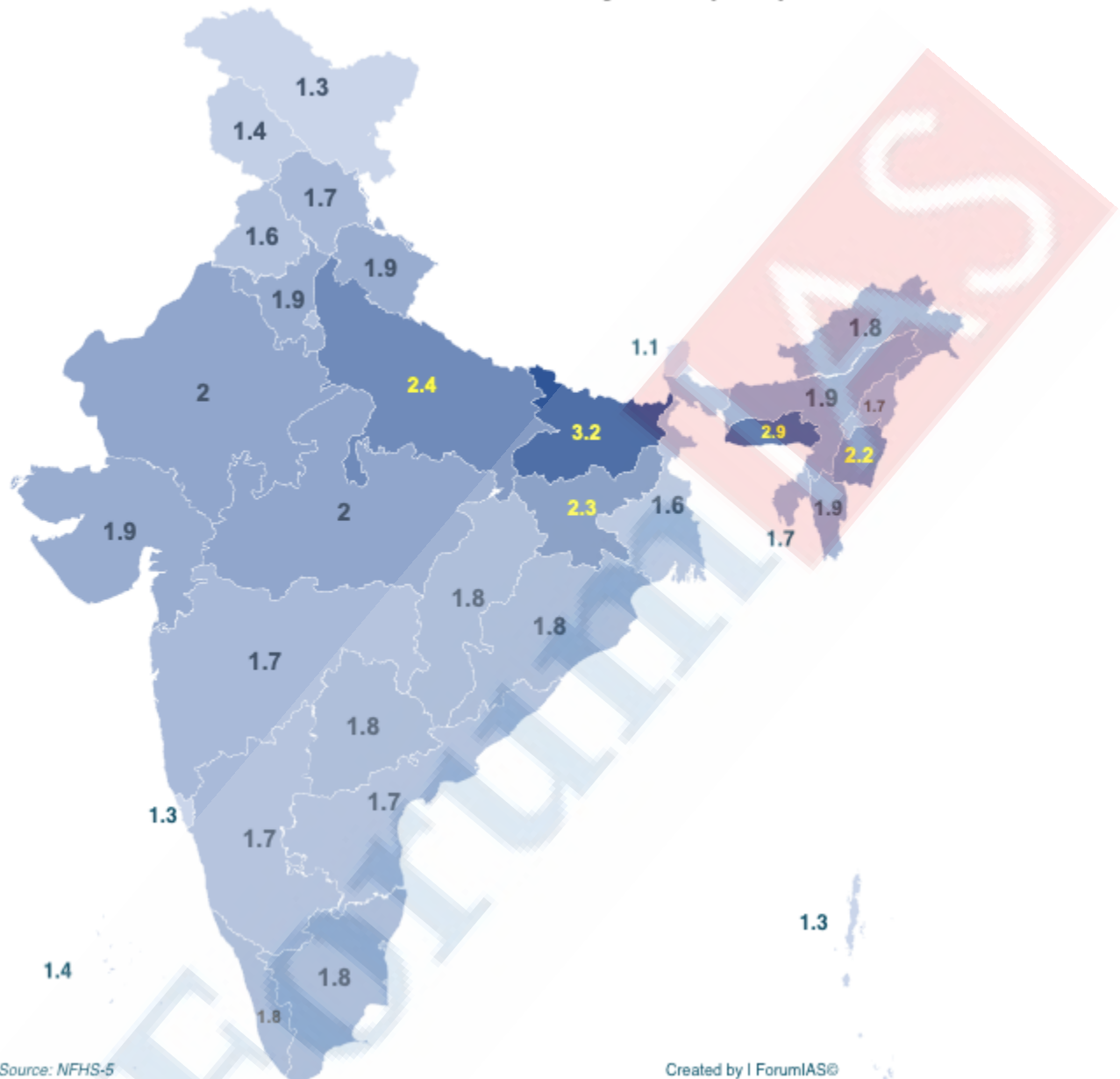
Source: Our World in Data.

What are the projected trends of India's Population?

The fertility rate in India has fallen substantially – from 5.7 births per woman in 1950 to just 2 births per woman today. As per **National Family Health Survey (NFHS) 5**, all states (except Mizoram) have seen **an increase in the use of family planning methods**. Goa (42%) and Bihar (32%) have seen the highest increase in the use of family planning methods.

Consequently, most states have seen **a decrease in the total fertility rate (TFR)**. However, some large States like Bihar (3.2) and UP (2.4) still have TFR much above the Replacement Rate. This is concerning as both States already have large population base. They'll be the driving force behind India's population rise in the coming decades. All other medium and large states in the survey (i.e., population above 1 crore) have a TFR below the replacement level rate of 2.1.

State-wise Total Fertility Rate (TFR)



Due to a large proportion of younger population, India's population will continue to rise (**population momentum**) for the next 3 decades before stabilizing in the 2060s. India is projected to have a population of 1.688 billion in 2050, much ahead of China's 1.317 billion.

What are the opportunities created by a rising population?

First, a rise in the working age population creates an opportunity for accelerated economic growth per capita. This shift in the age distribution provides a time-bound opportunity for accelerated economic growth known as the "**demographic dividend**".

Second, it helps in **creating a consumption driven economy** which is less dependent on exports for its survival. Such economy has the tendency to absorb global shocks in a relatively better way as seen in the case of India. The large domestic market is attractive to foreign

investors. Consequently, it acts as a factor in attracting foreign investments in domestic economy.

Third, a rising population **opens up prospects of emmigration** to other countries which help in generation of additional forex reserves and also enhances a nation's soft power in foreign lands. For instance, a significant portion of remittances are sent by the Indian Diaspora in the U.S to their families living in India.

What are the adverse implications of the current population trend in India?

First, India's rising working-age population necessitates **creation of large livelihood opportunities**. In the absence of suitable employment opportunities, India's demographic dividend may turn into demographic disaster e.g., a report by PwC had estimated in 2019 that India would need to create 100 million (10 Crore) jobs between 2020-27. It will put pressure on India's economy to have productive capacity to create new jobs.

Second, India's **population is ageing** due to rising life expectancy. This has enhanced the share of elderly population e.g., the share of population aged greater than 60 years was 12.6% for Kerala and 10.4% for Tamil Nadu in 2011. This is projected to increase to 20.9% and 18.2% respectively by 2031. Higher proportion of the elderly translates into a greater expenditure on healthcare and social security schemes. This would put a **huge fiscal burden on the State exchequer and also reduce funds for creating capital assets**.

Third, a study has found that India might grow old before it becomes rich. This is because of failure to realize demographic dividend due to lower focus on education, lack of skilled manpower and lack of employment opportunities. China's Labour Force Participation Rate is ~70% compared to ~43% in India.

Fourth, there are **large inter-state disparities in population and growth rates**. Rising population in some States will force out-migration into States with lower population and more developed economies. This might give rise **social tensions** with insider vs outsider debate. States are already **reserving jobs for local population**. Moreover, ageing States will rely on outside migrants to maintain their economic growth.

Fifth, the freeze on Parliamentary Constituencies will end in 2026 (Re-adjustment according to 2031 Census). States with rising population will gain more seats at the expense of States that have controlled their population. This will further add to inter-State conflict.

Sixth, high population raises **anthropogenic footprint on earth**. It puts high pressure on resources and also reduces their replenishment. Large population has posed challenges to the achievement of the **UN's Sustainable Development Goals (SDGs)**.

National Population Policy, 2000

Objectives

- **Immediate:** Address the unmet needs for contraception, health care infrastructure, and health personnel, and to provide integrated service delivery for basic reproductive and child health care.
- **Medium-term:** To bring the TFR to replacement levels by 2010, through vigorous implementation of inter-sectoral operational strategies.
- **Long-term:** To achieve a stable population by 2045, at a level consistent with the requirements of sustainable economic growth, social development, and environmental protection.

Themes

- Decentralised Planning and Programme Implementation.
- Convergence of Service Delivery at Village Levels.
- Empowering Women for Improved Health and Nutrition.
- Child Health and Survival.
- Meeting the Unmet Needs for Family Welfare Services.
- Under-Served Population Groups (*Urban Slums, Tribal Communities, Adolescents, Increased Participation of Men in Planned Parenthood*).
- Contraceptive Technology and Research on Reproductive and Child Health.
- Information, Education, and Communication (IEC) and involvement of the NGOs.
- Providing for the Older Population.

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How can the population rise be effectively managed?

Social Measures

Raising the Status of Women: Evidence shows that improvement in status of women through education and economic participation reduces TFR.

Raising Age of Marriage: Fertility depends on the age of marriage. So the minimum age of marriage should be raised to 21 years.

Spread of Education: It helps change the outlook of people. It raises awareness about importance of family planning and birth control methods. Educated women are health conscious and avoid frequent pregnancies and thus help in lowering birth rate.

Economic Measures

Development of Agriculture and Industry: If agriculture and industry are properly developed, a large number of people will get employment. When their income is increased they would improve their standard of living and adopt small family norms.

Urbanization: TFR in urban and rural areas is 1.6 and 2.1 respectively (NFHS-5). Migration and urbanization tends to lower the birth rate. Hence, more employment opportunities and urbanization will help in reducing population growth rate.

Other Measures

Raising awareness about family planning, birth control methods, access to contraceptive methods can help in controlling population. Some experts argue that the Government can incentivize adoption of birth control measures. Monetary incentives and other facilities like leave and promotion can be extended to the working class which adopts small family norms.

Focus Areas for Population Policy

According to an expert working with **Population Foundation of India** (an NGO), the Population Policy should focus on:

- **Reducing disparities in access to family planning:** At present access to family planning is dependent upon **place of residence, age** and wealth quintile (or **social status**).
- Increasing the age of marriage.
- Improving **access to education** (including higher education) **to women** for their empowerment and curbing teen pregnancies.
- Improving awareness about family planning and **driving greater responsibility for men in birth control**.
- Improving healthcare for the elderly population.
- Stabilizing the fertility rate near replacement level so that India doesn't face the situation of China and Japan of supporting a very elderly population.
- India should focus on realizing the Demographic Dividend by improving access to **education, skilling** and creating **livelihood opportunities**.
- Migration and the associated concerns should also be an important consideration.

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Should coercive methods be adopted to control population?

There are arguments for forcing people to adopt birth control measures. However, it is not advisable.

First, Kerala, Tamil Nadu and many other states have lowered the TFR and achieved a control over the birth rate without any coercive measures.

Second, coercive measures were adopted in the 1970s like forced sterilization, which had resulted in widespread disaffection against the Government.

Hence coercive population control measures may not achieve desired results and can cause unintended consequences.

Conclusion

To maximize the potential benefits of a favorable age distribution, India must invest in the further development of its human capital. There is a need to ensure access to health care and quality education at all ages and promote opportunities for productive employment and decent work.

Source: [Indian Express](#), [The Times of India](#), [Down to Earth](#), [The UN](#)

[Kurukshetra July Summary] Equitable Water Resources Management – Explained, pointwise

Introduction

India houses 18% of the world's population but only has 4% share in water resources of the earth. Though it has about 1999 Billion Cubic Meters (BCM) (or km³) of annual water availability, its distribution is grossly unequal across the river basins and thus leads to water-stress in many

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regions in the country. According to NITI Ayog, a large number of Indians face high to extreme water stress. So, water has become a commodity as precious as gold in summers for people in India. While the Government of India is consistently working towards improving access to water, participation of local people and institutions is also the need of the hour. Equitable water resources management can ensure adequate amount of water availability for all.

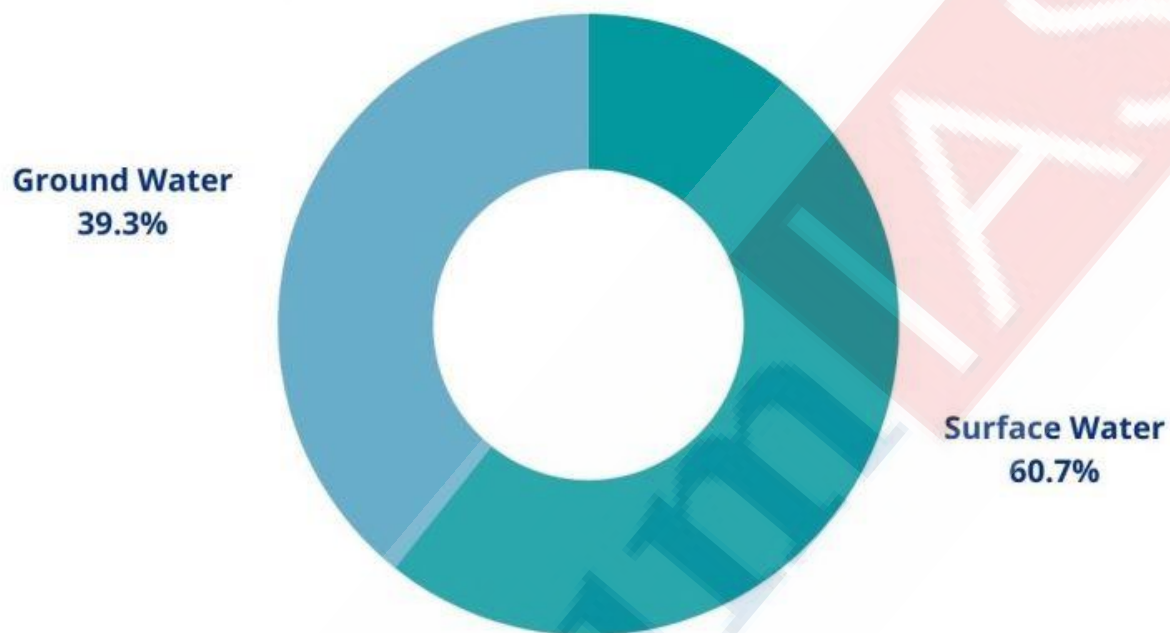
Water Resources in India

Annual Precipitation in India is ~4,000 km³. Another 500 km³ is received as Run-off from Upper Riparian Countries. On an average, 1,869 km³ water remains available as natural run-off. Due to geological factors, only 1,137 km³ is utilizable.



Annual Natural Flow in Rivers and Aquifers

India's Annual Natural Flow in Rivers and Aquifers is 1137 km³. Of this, 690 km³ is Surface water (60.7%) and 447 km³ is Ground water (39.3%)



Source: National Water Mission, 2008

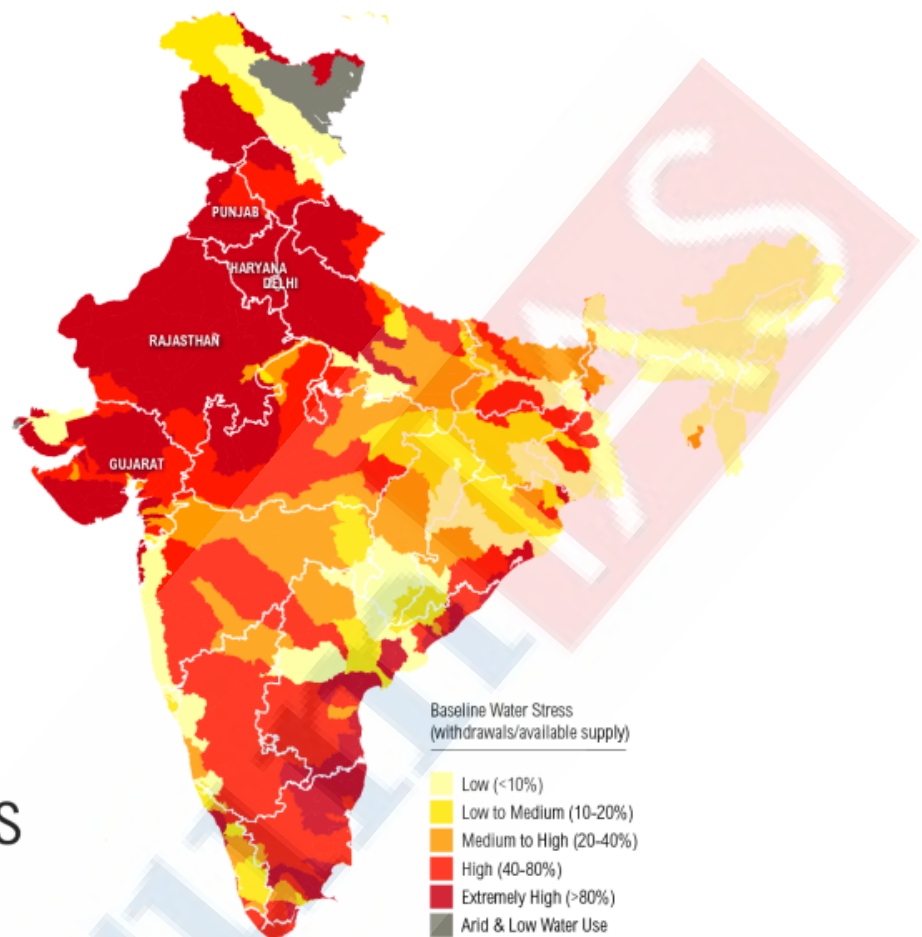
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What is the current status of water stress?

It is estimated that globally, 2.3 billion people live in water-stressed countries and about 2.0 billion people lack access to safe drinking water'.

In India, analysis done by the Central Ground Water Board on groundwater availability and utilization reveals that annual extraction is more than the annual recharge quantity in 16% of the total assessed area. It is 90-100% of annual recharge capacity in 4% of the assessed area.

54%
of India
Faces
**High to
Extremely
High**
Water Stress



www.indiawatertool.in

 WORLD RESOURCES INSTITUTE

Source: World Resources Institute. Many regions of India fall in Extremely High Water Stress Areas (Withdrawal of water > 80% of available water supply in the Area). These include Southern Punjab, Haryana, Uttarakhand, Western UP, Rajasthan, Parts of Gujarat, Coastal Tamil Nadu and Andhra Pradesh. Most parts of East and North-east India fall in low stress zones.

What is the need for equitable water resources management?

Basic Human Right: The United Nations General Assembly (UNGA) resolution adopted in July 2010, explicitly recognises the **human right to water and sanitation**. According to the World Health Organisation (WHO), a person requires a minimum of 50 litres of water per day to meet the most basic needs. The water source has to be within 1 km of the home with collection time not exceeding 30 minutes.

Further, The Sustainable Development Goal (SDG) target 6.1 aims for universal and equitable access to safe and affordable drinking water for all by 2030.

Unequal Distribution of Water: India receives nearly 4000 billion cubic metres (BCM) of water through rainfall of which about 1999 BCM form available water in rivers, lakes, reservoirs,

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groundwater and glaciers. However the distribution of this quantity is not uniform across the country. Some river basins are acutely drought prone, some other basins are frequently devastated by floods.

For example, Brahmaputra and Barak basins, the most flood prone basins, which have an annual average water availability of 614 BCM drains its major share into Bay of Bengal. At the same time, basins like Cauvery and East Flowing Rivers (EFR) between Pennar and Kanyakumari are facing water deficiency.

Limited capacity of Alternatives: To address these spatial and temporal disparities, the available water should either be stored in reservoirs or be transferred from surplus basins to deficit ones. However, both these options aren't easily implementable owing to certain inherent limitations.

Issues with Reservoirs: They often take a long gestation period due to the time required to manage environmental aspects, resettlement and rehabilitation processes. Moreover, a significant quantity of the reservoir storage capacity is lost through siltation which reduces the effective potential of the projects.

Issues with Inter Basin Transfers: They often require consensus building between governments of riparian states, environmentalists and many other stakeholders. The amount of money and time invested in these projects is also huge. The first inter-linking project of Ken-Betwa began 40 years after the National Perspective Plan was presented in 1980.

What are the reasons behind deteriorating water resources?

Overuse in Agriculture: The Green Revolution helped India become self reliant in food grain production but it also triggered the water crisis. For instance, farmers in Punjab switched to water intensive paddy cultivation, and things have gone downhill ever since. Over consumption of water in the agriculture sector is mainly due to the **conveyance loss during distribution** through canals, **flood irrigation** of farm fields and cultivation of crops **without regard to the agro-climatic conditions**. The increased groundwater extraction may even lead to salt water intrusion in coastal aquifers which is a permanent damage to the water quality.

Sectoral Water-Use in India

In India, agriculture uses ~90% of available water. In contrast, agriculture use is ~65% in China, ~40% in the US and ~30% in Russia.



Source: FAO Aquastat, Kurukshetra July 2022

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Climate Change: It is driving more intense rainfall and flooding in certain areas, whereas certain other areas, generally further away from coasts, are facing intense droughts. IMD rainfall data for the period 1971-2020 shows that the long period average (LPA) of south west monsoon declined by 1 cm.

Lack of Awareness: There is general lack of awareness regarding the invaluable utility of water. Most people often use water more than their need, especially in places getting huge water subsidies by the government.

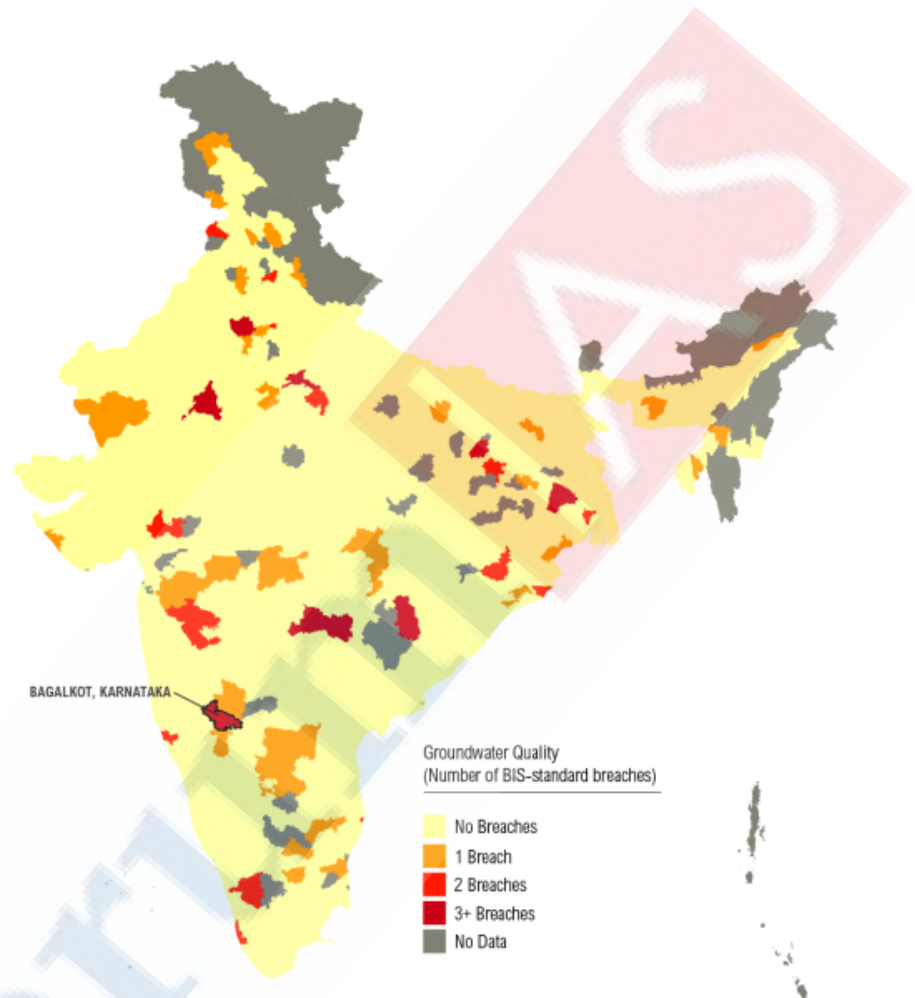
Encroachment: There is encroachment of water bodies to meet the **infrastructure needs of burgeoning populations**. Lakes and small ponds often get destroyed while making townships and industrial complexes.

What are the adverse consequences of water mismanagement?

Health Issues: Heavy chemicals like fluoride, chloride, nitrate are found in water and in some districts there were even traces of uranium. Kids have developed deformities due to water

contamination. The hair of children has started greying prematurely and some have problems with their teeth and skin.

More than
100
MILLION
People Live
in Areas of
Poor Water
Quality



www.indiawatertool.in

 WORLD RESOURCES INSTITUTE

Source: World Resources Institute. The India Watertool (IWT) measures water quality (surface and groundwater) according to the Bureau of Indian Standards (BIS) limits. Among the IWT's 632 groundwater quality districts, only 59 (or 9%) are above BIS limits. Whenever a particular pollutant concentration exceeds BIS limits, drinking water is considered unsafe. The map indicates places where chlorine, fluoride, iron, arsenic, nitrate, and/or electrical conductivity exceed national standards. More than 130 million people live in districts where at least one pollutant exceeded national safety standards in 2011.

Economic Loss: Water is a critical component that is used in almost every economic activity directly or indirectly. Water scarcity, aggravated by climate change, could cost some regions **up to 6% of their GDP**, according to a World Bank report.

Greater Hardships of women: The household work is mainly managed by women. A shortage of water means they have to stand in long queues of water tankers or travel long distances to get

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clean water for their families. A rural woman in Rajasthan walks over 2.5 kilometers to reach a water source, according to a report by the National Commission for Women. Since men in rural India have completely made women responsible for water management, this has led to **polygamy in one drought-prone village of Maharashtra**. This involves having more than one spouse to collect water. The arrangement is termed as 'water wives'.

Biodiversity Loss: A reduction in the number of lakes or excessive discharge of pollutants in them are causing loss of pristine flora and fauna. Many plants and animals are now on the verge of extinction due to rising Biological Oxygen demand of water bodies.

Food Security: Polluted groundwater and erratic monsoon means greater hardships for carrying out agricultural activities. Lower the agri output, greater would be the threat to India's Food security.

Inter State Conflicts: Inter State river conflicts are going on Kaveri, Krishna, Godavari etc.. rivers. This would get amplified and new conflicts may emerge in future.

What steps have been taken by the government towards water resources management?

Jal Jeevan Mission (JJM): It aims to ensure Functional Household Tap Connections (FHTC) to all rural households by 2024. It has at present achieved about 51 percent coverage.

Pradhan Mantri Krishi Sinchayee Yojana (PMKSY): Its 'Per Drop More Crop' component focuses on improving water use efficiency at farm level through micro-irrigation and better on-farm water management practices to optimize the use of available water resources.

National Water Awards: Best practices for water conservation and enhancing water use efficiency are rewarded through the institution of 'National Water Awards'.

State Level interventions: Ban on early sowing of paddy by Haryana and Punjab; 'Jai Hi Jeevan Hai' Scheme by Haryana to incentivise growing of less water intensive crops; and mandatory use of drip irrigation for sugarcane cultivation by Maharashtra Government are steps towards ensuring sustainable water use in agriculture.

Read More: [Water Crisis in India – Explained, pointwise](#)

What more steps can be taken going ahead?

First, there is a need to **adopt and promote efficient irrigation methods like micro-irrigation**. It can reduce water and energy demand as well as enhance productivity of crops. Currently only 14.5 million hectares are covered under micro-irrigation of which 6.7 million hectares were added in the last 7 years as a result of the huge push offered under the PMKSY-Per Drop More Crop scheme.

Second, India needs a paradigm shift from its cultivation **from rice and sugarcane to millets** which are nutritious and water-efficient. The UN General Assembly has adopted the idea proposed by the Government of India to declare 2023 as the international Year of Millets.

Third, there is a need for **technology infusion** in water resources management. This could be in the form of automation of canal operation, real-time assessment of irrigation requirement with the help of Artificial Intelligence (AI), automated leak detection in drinking water pipelines, cost-effective wastewater treatment and zero-liquid discharge power plants.

Fourth, as recommended by the 15th finance commission, States must create their long term drought mitigation plans. Further, the Union Government must link State grants with their performance in water conservation and management.

Fifth, there should be **a proactive introspection from farmers and civil society organizations** on how the subsidized power and less priced water leads to inefficient use of the precious and scarce natural resource. The price recovery should be such that it makes the system self-sufficient to meet its regular operation and maintenance expenses. Civic sense should prevail among citizens. The more the water is wasted, misused or overused; lesser is the availability for the under-privileged sections.

Sixth, developed countries should be **willing to share funds and technology with developing countries** in the spirit of UNGA resolution 2010. It calls upon international co-operation to help countries, particularly developing countries, to provide safe, clean, accessible, and affordable drinking water and sanitation for all.

Conclusion

Water Resources Management is essential to address the acute water crisis, which is expected to get worse with climate change. The water use principles should uphold the spirit of inclusiveness and ensure that “No one is left behind” as envisaged in the Sustainable Development Goals (SDGs). Efforts must be made on a war footing keeping in mind that ‘Jal hi Jeevan hai’ i.e Water is Life.

Source: Kurukshetra July 2022, [World Resources Institute](#)

Privatization of Banks: Benefits and Concerns – Explained, pointwise

Introduction

A report by National Council of Applied Economic Research (NCAER) has recommended that the Union Government should privatize all Public Sector Banks (PSBs), except the State Bank of India (SBI). The Report further states that the Government ownership hinders the ability of the RBI to regulate the sector. The recommendation of complete privatization of banks has led to sharp reactions from the critics. According to them complete exit of the Government will give rise to systemic risks in the financial sector. The Union Government is aggressively pursuing the exercise of disinvestment. For the ongoing fiscal year FY22, the Government has set a disinvestment target of Rs 1.75 lakh crore. The plan includes privatization of two public sector banks, public listing of the Life Insurance Corporation of India, Shipping Corporation of India, and many other PSUs.

About the Ownership Trend in Banking Sector in India

After the formation of Reserve Bank of India in 1935, to the period till Independence (1947), there were 900 bank failures in India. From 1947 to 1969, 665 banks failed. The depositors of all these banks lost their deposited money. The Government nationalized 14 major banks in 1969. After this 36 banks failed but these were rescued by merging them with other government banks. This included even bigger banks like Global Trust Bank. 6 more banks were nationalized in 1980.

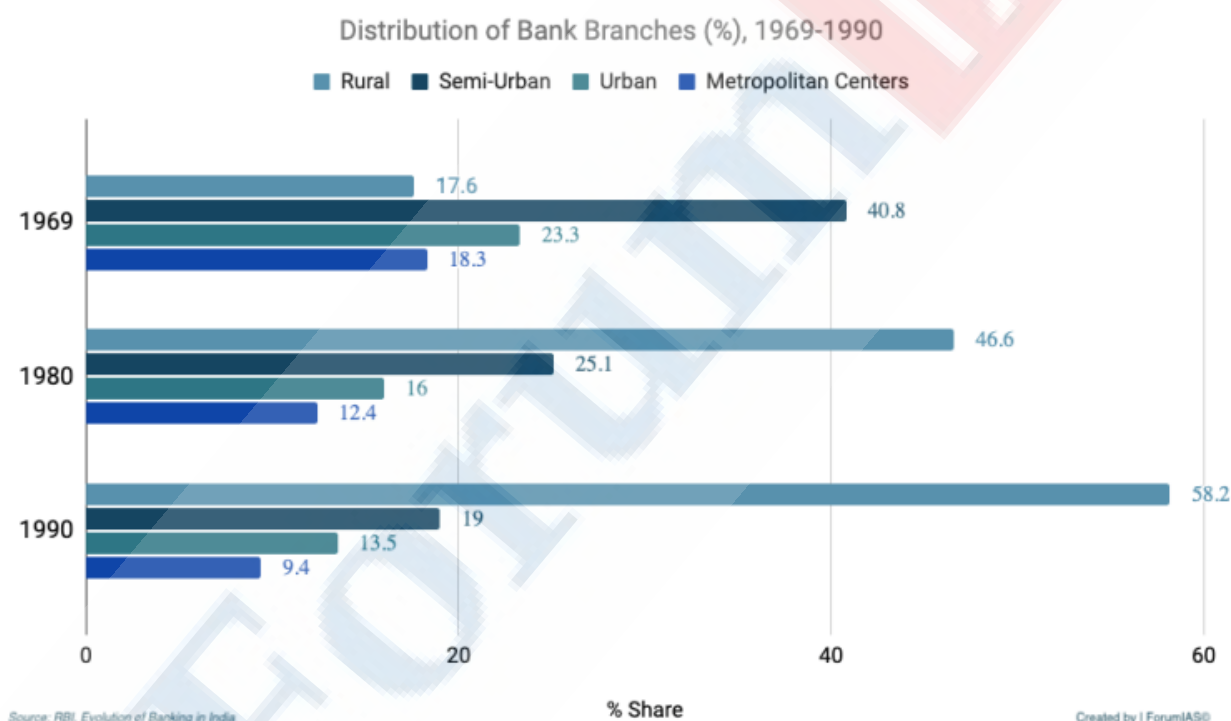
However, since the liberalization of the economy in 1991, the discourse on bank ownership has changed significantly. Guidelines for setting up private banks were established in 1993 and the ICICI Bank was set up in 1994. Since then the Private Banks have expanded their footprint.

Simultaneously, the approach of the Government has been to reduce its presence in the Banking Sector and reduce the number of Public Sector Banks. In 2019, after a massive consolidation exercise, the number of PSBs reduced from 28 to 12.

During the Union Budget 2020-21 presentation, the Government announced a new policy for strategic disinvestment of public sector enterprises. This policy provides a clear roadmap for disinvestment in all non-strategic and strategic sectors. The Banking Sector falls under the strategic sector. The Government announced privatisation of two PSBs as a part of its disinvestment plan.

What have been the benefits of nationalization of banks?

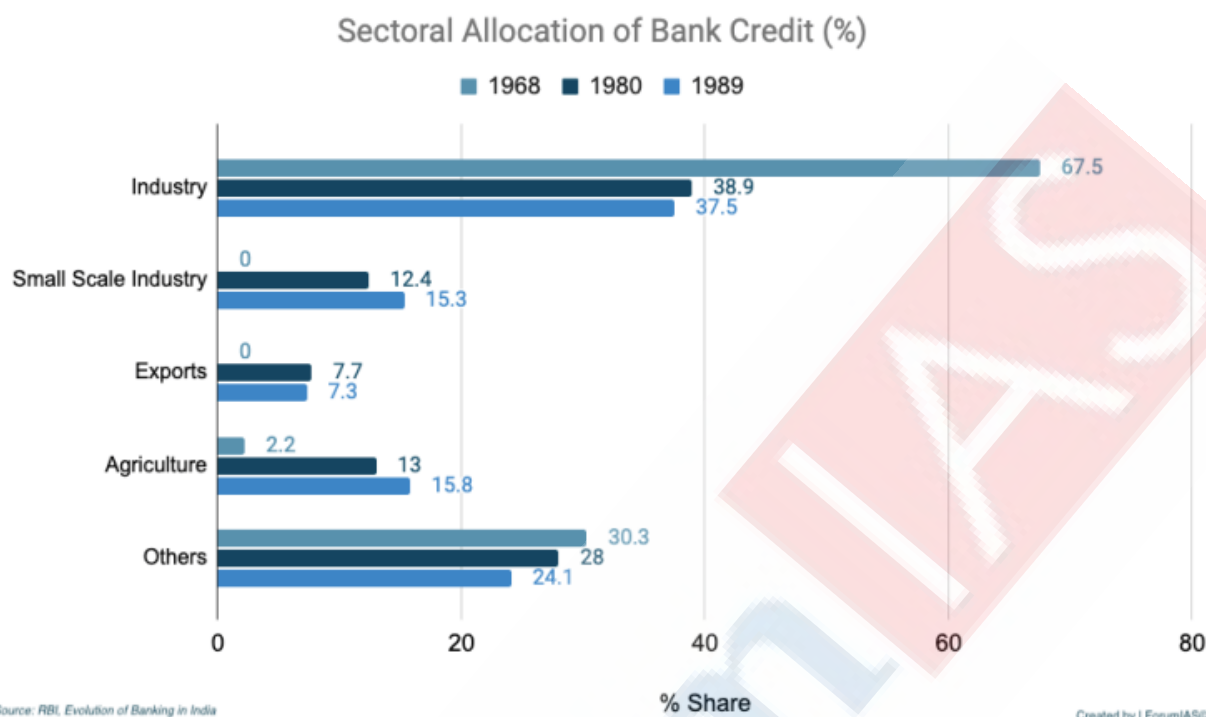
The nationalization of private banks in 1969 resulted in the penetration of banking sector in the rural areas of India. Private Banks were reluctant to open branches in rural India due to low profitability. However, nationalized banks followed the mandate of the Government and helped in financial inclusion.



The Share of Bank Branches in rural areas increased from <18% in 1969 to ~60% by 1990. This shift happened due to several initiatives by Public Sector Banks like the Lead Bank Scheme launched by the RBI in 1969.

Only after nationalization of banks could small borrowers get credit and there was a **shift from class banking to mass banking**.

Banks were used to bring about **a revolution in agriculture** and to carry out activities related to it.



The Sectoral allocation of Bank Credit underwent a change after nationalization of banks. The Share of Agriculture improved from 2.2% in 1968 to 16% in 1989. The share of credit to Industry decreased from 67.5% in 1968 to 37.5% in 1989. This shift happened due to expansion of rural branches and Priority Sector Lending norms.

The proliferation of branches created job opportunities for large section of educated youth. It also benefitted local rural economies.

There was an **increased public confidence in the banking system**. The growth rate of saving bank deposits witnessed a rapid rise post 1969.

42 crore ordinary people have opened bank accounts as a result of the immense contribution of state-owned banks in **opening Jan Dhan Yojana accounts**.

What are the arguments in favour of Privatization of Banks (NCAER Report)?

First, private banks have emerged as a **credible alternative to PSBs** with substantial market share. PSBs have lost ground to private banks, both in terms of deposits and advances of loans. Since 2014-15, almost the entire growth of the banking sector is attributable to the private banks and the SBI.

Second, Government ownership hinders the ability of the Reserve Bank of India (RBI) to regulate the sector.

At present **PSBs are under the dual control** of the RBI and the Department of Financial Services of the Ministry of Finance. The RBI handles the governance side of the PSBs under the RBI Act, 1934. The Department of Financial Services maintains the regulation of PSBs under the Banking Regulation Act, 1949. Thus, RBI does not have the powers to revoke a banking license, shut down a bank, or penalize the board of directors for their faults. Privatization will provide the powers to RBI to control them effectively.

Third, barring SBI, most **other PSBs have lagged behind private banks in all the major indicators of performance** during the last decade. These PSBs have attained lower returns on assets and equity than their private sector counterparts. The non-performing assets (NPA) of PSBs remain elevated as compared to private banks even as the government infused US\$ 65.67 billion into PSBs between 2010-11 and 2020-21 to help them tide over the bad loan crisis.

The market valuation of PSBs, excluding SBI, remains 'hugely' below the funds infused in such banks as of May 31, 2022.

Fourth, the **under-performance of PSBs has persisted despite a number of policy initiatives** aimed at bolstering their performance during this period. These initiatives include: **(a) Recapitalisation** of PSUs; **(b) Constitution of the Bank Board Bureau** to streamline and professionalize hiring and governance practices; **(c) Prompt corrective action plans**; **(d) Consolidation** through mergers.

Fifth, the steady erosion in the relative market value of PSBs is indicative of **a lack of trust among private investors** in the ability of PSBs to meaningfully improve their performance.

Sixth, the **current fiscal position of the Union Government is not strong enough** to provide huge sums for recapitalization and keep on sustaining sick PSBs.

Seventh, the privatization of banks will have a positive impact on the economy by **bringing stability at the macroeconomic level**. Privatization of a few loss-making PSBs will ensure that market discipline forces them to rectify their strategy, and this will have a ripple effect on other PSBs.

The pandemic has led to the severe decline in the economic curve of the nation and has made a negative impact on banks as a whole, which makes it imperative to take all possible steps to revive the banking sector.

Methods to Privatize Banks

3 options before the Government to undertake privatization of banks



Amendment to the Bank Nationalization Act

- The law requires that government has to hold 50 percent plus in PSU banks,
- The Government can drop this clause by amending the Bank Nationalization Act.



Bringing Banks Under Companies Act

- The Government can repeal the Bank Nationalisation Act and bring banks under the Companies Act.
- This could be more reformist because, under the Companies Act, boards have more power.



Holding Company

- The Government can create a holding company under which all the PSU banks would be owed.
- Privatized Banks will have most freedom under this approach.

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What are the challenges in Privatization of Banks?

First, as per the stated policy of the Reserve Bank of India, **banks cannot be run by industrial houses**. However, excluding the industrial houses, there are no entities that have the required financial capability to take over any of the government banks.

Second, private banks have a long history of failures, as noted above (>1500 banks failed between 1935-1969). Recently, the RBI had to come to the **rescue of Lakshmi Vilas Bank and YES Bank** by pumping of capital by other entities to save these banks. Bank failures and lack of Government intervention will increase the risk in the banking system.

Third, Banks owned by the sovereign government provide more **comfort level to depositors**. Expansion of private sector in banking will reduce consumer confidence in the sector.

Fourth, **Private banks operate** with the **sole aim of adding shareholder value**. In contrast, the **government banks** also try to **serve society** and ensure implementation of all government programmes for the social sector. Privatization might have a negative impact on financial inclusion, agriculture credit etc.

Fifth, bank **workers are opposed to privatization**, as they fear loss of jobs.

What should be the approach going ahead?

Recommendations of the NCAER report

The **two banks chosen for privatization** must be the ones with the highest returns on assets and equity, and the lowest NPAs in the last five years. It has recommended Indian Bank and Bank of Baroda as the two top choices for privatization. This would set an example for the success of future privatizations.

It also makes a case for **corporate ownership in banks with due diligence** as there is “scarcity” of potential large-scale investors in banks. The government must allow foreign investors, including foreign banks and domestic investors, as well as corporate houses to enter the auctions with due diligence

Any potential risk may be minimized by letting a consortium of corporations enter the bidding with the stake of any single corporation capped.

Recommendations of PJ Nayak Committee

Though the Government approved the Bank Board Bureau, the government has to provide enough support for proper functioning. The government can split the Chairman and Managing Director roles. Further, they should be allowed a fixed tenure of 3-5 years.

Recommendations of Narashimham committee

The Government can explore the concept of Narrow Banking. Under this weak PSBs will be allowed to place their funds only in the short term and risk-free assets. This will improve the performance of PSBs.

Other Measures

The Government must create strong recovery laws and take criminal action against wilful defaulters. The challenges in the Insolvency and Bankruptcy Code (IBC) must be addressed. This will provide a faster resolution process. In the meantime, the Government can explore alternate steps such as the concept of Bad Banks.

Conclusion

Privatizing all the PSBs and complete exit of the Government might have significant negative consequences. The Government must find ways to strengthen the governance of banking system and ensure safety of depositors' money. Complete exit may not be an option, for now.

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

Forest Conservation Rules, 2022: Provisions and Concerns – Explained, pointwise**Introduction**

The Ministry of Environment, Forest and Climate Change (MoEFCC) has notified the Forest Conservation Rules, 2022 under the Forest Conservation Act. The Union Government has updated the rules in order to improve the efficiency of forest diversion and streamline the process. However many experts have criticized the new rules. They say that the new rules will let private developers cut down forests without ensuring the consent of the forest dwellers, a change that violates a provision of the Forest Rights Act, 2006.

What are the Forest Conservation Rules?

The Forest Conservation Rules deal with the implementation of the Forest Conservation Act (FCA), 1980. They prescribe the procedure to be followed for **diversion of forest land for non-forestry uses** such as road construction, highway development, railway lines, and mining.

The broad aims of the Forest Conservation Act are to **protect forest and wildlife**, act as a check on the State Governments' attempts to divert forest land for commercial projects and strive to **increase the area under forests**.

For **forest land beyond 5 hectares**, approval for diverting land must be given by the Union Government. This is through a specially constituted committee, called the **Forest Advisory Committee (FAC)**.

The Committee examines whether the user agency has made a convincing case for the upheaval of that specific parcel of land. It also examines whether users have a plan in place to ensure that the damage from felling of trees in that area and denuding the local landscape will be minimal. The Committee also ensures that diversion of land doesn't cause damage to wildlife habitat.

Once the FAC is convinced and approves (or rejects a proposal), it is forwarded to the concerned State Government where the land is located. The **State Government** then has to ensure that **provisions of the Forest Right Act, 2006** are duly complied.

The FAC approval also means that **the future users of the land must provide compensatory land for afforestation** as well as **pay the net present value** (ranging between ₹10-15 lakh per hectare.)

What are the provisions of the Forest Rights Act, 2006 with respect to diversion of forest land? The Forest Rights Act, 2006 requires the Governments to seek **free, prior, and informed consent of forest dwellers** before allowing a project on their traditional lands.

In 2009, the Environment Ministry passed an order mandating that proposals would not be entertained by the FAC unless there was a letter from the Union Government specifying that the **forest rights in the place had been 'settled'**.

Further, the order made it **mandatory to obtain written consent of the Gram Sabha for the diversion of forest.**

Forest Rights Act: Consent of Communities

Vedanta's Mining Project in Odisha

- In 2013, the Supreme Court asked the Gram Sabha's consent on the Vedanta group's US\$ 1.7 billion bauxite mining project in Odisha's Niyamgiri Hills.
- All 12 Gram Sabhas unanimously rejected mining in the hills.
- It affirmed the decision-making power of the village councils of Rayagada and Kalahandi under the Forest Rights Act.

Hydel Project in Himachal Pradesh

- In 2016, the National Green Tribunal (NGT) invoked the Forest Rights Act.
- It asked for consent of people of Lippa (Kinnaur, Himachal Pradesh) regarding the proposed Hydel Power Project.
- The project would have led to submergence of forestland and also caused heavy siltation in the river. The Gram Sabha did not approve the project.

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What are the provisions of the new Forest Conservation Rules?

The rules shift the responsibility of the Union government to take the consent of Adivasis (before the approval of a project) onto the State Governments. It means that the burden to ensure the rights of Scheduled Tribes to their traditional forestlands is now with the State Governments.

A project, once approved by the FAC, will then be passed on to the State authorities who will collect the compensatory fund and process it for final approval. The new rules **allow the Union Government to permit the clearing of a forest before consulting its inhabitants.**

The handover of the forest can be approved and the Union Government can collect payment for compensatory afforestation from the private developer even before the State Government ensures consent of the forest dwellers.

The rules make a provision for private parties to cultivate plantations and sell them as land to companies who need to meet compensatory afforestation targets.

How well has the Forest Conservation Act (FCA) been implemented so far?

A 2019 analysis by the Legal Initiative for Forests and Environment has found that the FAC generally **approves land for diversion without examining questions around consent** as it relies on the State Government to ensure that this is done.

In the first six months of 2019, out of the 240 proposals, 193 proposals were recommended, 40 proposals were deferred for later consideration and 7 were rejected.

Recommendation for 193 proposals meant 9,220.64 hectares of forest land were recommended for diversion for non-forestry purposes such as roads, railways, mining, irrigation, infrastructure and hydel power.

What is the significance of new Forest Conservation Rules?

First, the latest version of the rules consolidates changes to the Act over the years from various Amendments and Judicial rulings. This will give **better clarity** to the implementing agencies and general public, thereby **preventing unnecessary diversion**.

Second, according to the Union Government, the new rules 'streamline' the process of approvals. It will allow parallel processing of the proposals and eliminate the redundant processes. This will ensure **speedier execution and prevent delays** in implementation of projects thereby preventing cost overruns and withdrawal of proposals.

Third, the new rules **expand the scope of compensatory afforestation lands** by allowing private parties to cultivate plantations and sell them as land to companies who need to meet compensatory afforestation targets. This will solve the problems of the States who are unable to find land within their jurisdiction for compensatory purposes.

What are the concerns associated with the new Rules?

First, there is a lack of clarity regarding what happens to **tribals and forest-dwelling communities** whose land would be taken away for developmental work. Further, the wording of new rules **implies that it is not mandatory to take the consent of Gram Sabha** before diversion of forest.

Second, the new rules allow the Union Government to permit the clearing of a forest before consulting its inhabitants. This is akin to **forced consent**, the inhabitants will have no choice but to accept. Once forest clearance has been granted, no claims will be recognised and settled.

Third, the rules are being criticized as a tool to promote ease of doing business for a chosen few but will **end the 'ease of living'** for the many forest dwellers.

Fourth, the new rules were **promulgated without any consultation and discussion** with the stakeholders. This includes the Parliamentary Standing Committee on Science and Technology, Environment, Forests and Climate Change, the environmental conservation groups or the representatives of tribal communities who will be impacted.

What lies ahead?

First, The Forest Conservation Rules 2022 are to be placed for approval before the Lok Sabha and the Rajya Sabha. This would give the Union Government a chance to explain its stance in detail as well as allow opposition leaders to put forward their grievances.

Second, the wildlife groups and human rights groups **must ensure that the government complies with all the environment laws and regulations**. They must come forward to give constructive feedback on the new forest conservation rules, 2022.

Third, going forward the Government should **imbibe the philosophy of 'One Health'** wherein decisions are taken by balancing the impact on humans, animals and overall environment.

Conclusion

The new Forest Conservation Rules should be reviewed after constructive debates and discussions with the concerned stakeholders. They must be tuned to reflect upon the indispensable significance of tribal and forest rights and the Government's duty to protect the same.

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

Progress on the Sustainable Development Goals – Explained, pointwise

Introduction

The Sustainable Development Goals (SDGs), also known as the Global Goals, were adopted by the United Nations in 2015. There are specific targets for each goal, along with indicators that are used to measure progress toward each target. The UN monitors the progress of the SDGs and publishes the findings in an annual report. The Report is made by the UN Department of Economic and Social Affairs in collaboration with the UN Statistical System. This year's (2022) report 'paints a particularly bleak picture' of the 2030 Agenda. The report shows 'how the agenda is being seriously jeopardized' by multiple intersecting crises, wiping out years of progress on the SDGs and pushing millions into hunger and poverty. The Report calls for an 'urgent action' if the SDGs are to be rescued and the 2030 deadline is to be met.

About the Sustainable Development Goals (SDGs)

The SDGs are a universal call to action to end poverty, protect the planet, and ensure that by 2030 all people enjoy peace and prosperity. There are total 17 interlinked goals; interlinked because they recognize that action in one area will affect outcomes in others, and that development must balance social, economic and environmental sustainability.

They were adopted by an UN General Assembly Resolution in September 2015 (Agenda 2030). Through the resolution, the global leaders pledged to set the world on a new trajectory to deliver meaningful progress for people and the planet through domestic actions in the next 15 years.



Source: UNDP

The 17 Goals have 169 targets ranging from eradicating poverty and hunger, improving health and education, to providing basic services such as drinking water by 2030.

Read More: [SDG India Index and India's Sustainable development – Explained, pointwise](#)

What are the key findings of the Sustainable Development Goals Report, 2022?

The Report observes that a series of global crises have hampered the progress on the SDGs.

SDG 1 (No Poverty): Between 657 and 676 million people are currently projected to live in extreme poverty in 2022, compared to the pre-pandemic projection of 581 million.

SDG 2 (Zero Hunger): About 1 in 10 people are suffering from hunger worldwide, with 161 million additional people having slid into chronic hunger in 2020 alone.

SDG 3 (Good Health and Well being): The **COVID-19 pandemic** is threatening decades of progress in global health, decreasing global life expectancy and basic immunization coverage. The pandemic also increased the prevalence of anxiety and depression among people.

SDG 4 (Quality Education): 147 million children have missed over half of in-person instruction in 2020-2021, and 24 million learners may never return to school.

SDG 5 (Gender Equality): Women accounted for 39% of total employment in 2019 but 45% of global employment losses in 2020. Many women are increasingly burdened with unpaid care work. Domestic violence has also intensified.

SDG 6 (Clean Water and Sanitation): Meeting drinking water, sanitation, and hygiene targets by 2030 requires a 4-fold increase in the pace of progress.

SDG 7 (Affordable and Clean Energy): Progress on electrification has slowed, with 679 million projected to have no electricity access in 2030.

SDG 8 (Decent work and Economic Growth): 1 in 10 children are engaged in child labor worldwide – a total of 160 million in 2020.

SDG 9 (Industry, Innovation and Infrastructure): Global manufacturing has rebounded from the pandemic but least developed countries (LDCs) are left behind.

SDG 10 (Reduced Inequalities): The pandemic has intensified income inequalities between countries and people.

SDG 11 (Sustainable Cities and Communities): Leaving no one behind will require an intensified focus on 1 billion slum dwellers.

SDG 12 (Responsible Consumption and Production): 13.3% of the world's food is lost after harvesting and before reaching retail markets, and 17% of total food is wasted at the consumer level.

SDG 13 (Climate Action): Energy-related carbon dioxide (CO₂) emissions increased 6% in 2021 reaching their highest level ever, taking down gains due to the COVID-19.

SDG 14 (Life Below Water): In 2021, more than 17 million metric tons of plastic entered the ocean – a number projected to double or triple by 2040.

SDG 15 (Life on Land): The report found that 23 countries in Sub-Saharan Africa have also shown 'stagnant progress' under the goal. The proportion of forests fell from 31.9% of total land area in 2000 to 31.2% in 2020, representing a net loss of almost 100 million hectares.

SDG 16 (Peace, Justice and Strong Institutions): While global homicide rate declined 5.2% between 2015-2020, a quarter of the global population lives in conflict-affected countries.

SDG 17 (Partnership for Goals): Net official direct assistance (ODA) reached a new high of USD 177.6 billion, largely due to COVID-19-related aid, but ODA for SDG data declined by more than 18% (2020).

(For more observations of the Report, refer graphics at the end of the article).

What are some areas of progress as per the SDG Report, 2022?

SDG 6: The proportion of the global population using safely managed drinking water services increased to 74% in 2020.

SDG 15: Many countries are sustainably managing their forests, protecting sites critical to biodiversity, and enacting national conservation legislation and policies.

SDG 17: There has been progress in implementing frameworks for the sustainable use of genetic resources and associated traditional knowledge, especially the Nagoya Protocol to the Convention on Biological Diversity. It provides a transparent legal framework for the implementation of fair and equitable sharing of benefits arising from the utilization of genetic resources.

What are the reasons behind poor performance on the SDGs?

The Sustainable Development Goals Report, 2022 attributes the poor progress to 3 major Cs – COVID-19, Climate Change and Conflicts. However, there are several other factors as well.

COVID-19: The pandemic put a severe brake on the progress. It pushed the countries to impose lockdowns that brought all progressive work towards SDG attainment to a standstill.

As per the SDG report 2022, more than 4 years of progress in alleviating poverty have been wiped out due to the pandemic, pushing 93 million more people worldwide into extreme poverty in 2020. Further, the global “excess deaths” directly and indirectly attributable to COVID-19 had reached 15 million by the end of 2021.

It also affected education and healthcare services for millions. Immunization, for example, has dropped for the first time in a decade even as deaths from malaria and TB have risen.

Climate Change: As per SDG 2022 report, global temperatures have been rising unabated. The world is facing a major climate catastrophe due to increased heatwaves, drought and apocalyptic wildfires and floods which are affecting billions of people around the globe. The associated losses and economic costs are impairing the capacity of the countries to work towards SDG attainment.

Geopolitical Conflicts: The Russia-Ukraine crisis has caused food, fuel and fertilizer prices to skyrocket. It also disturbed global trade supplies and caused the financial markets to tumble. Projected economic growth for 2022 was cut by 0.9% due to the Ukraine war and potential new waves of the pandemic.

It has added to the already worsening refugee crisis. As of May 2022, over 100 million people have been forcibly displaced from their homes (due to war and other conflicts).

Diversion of Land for Economic Activities: 10 million hectares of forest are destroyed every year, with almost 90% of global deforestation due to agricultural expansion. This includes crop-land expansion (49.6 percent) and livestock grazing (38.5 percent) thereby impeding attainment of Goal 15.

Data Gaps: The Report also notes that despite some progress, serious data gaps exist in SDG monitoring. This includes data in terms of geographic coverage, timeliness and level of disaggregation.

This makes it difficult to fully comprehend the pace of progress towards the realization of the 2030 Agenda, differences across regions and who is being left behind. Less than half of the 193 countries have internationally comparable data available from 2015 or later for eight of the 17 SDGs. Further, only around 20 percent of countries have data for SDG 13 (climate action).

What can be done going ahead?

First, addressing Climate Change has become the most urgent requirement. All nations, and especially the developed countries, must fulfil their commitments under the Paris Agreement. Further, there is need to enhance the emission target cuts as well as improve the climate finance and technology sharing to help the developing countries.

In addition, the developed countries must come forward to support the developing nations in terms of **finance, technology and other key resources** in order for timely attainment of SDGs.

Second, innovative methods like **organic farming, vertical farming** etc. must be promoted for minimizing land degradation and diversion of forests for agriculture.

Third, efforts must be made to end armed conflicts and embark on a path of diplomacy and peace. For this, the Western and Eastern blocs must reach a compromise and end the miseries of the Ukrainian people.

Fourth, the experiences during the pandemic wherein use of ICT technologies was enhanced, can be used to augment data infrastructure. The National Statistical Organization should focus on deployment of new collaboration software, new equipment to staff, and new remote access tools such as virtual private network (VPN), Virtual Desktop and Mobile Office.

Conclusion

The Sustainable Development Goals Report outlines a three-step “road map for survival”. First, end armed conflicts and embark on a path of diplomacy and peace. Second, adopt low-carbon, resilient, and inclusive development pathways. Third, comprehensively transform the international financial and debt architecture. It also calls for collective action to rescue the SDGs and deliver meaningful progress for people and planet by 2030. The window to achieve the SDGs by 2030 is narrowing down. Sustained and focus efforts are required from the national Governments to achieve the targets.

Progress on the SDGs



SDG 1: No Poverty

- 4 Years of progress against poverty erased by COVID-19.
- Number of people in extreme poverty ~670 million (Pre-COVID projection 580 million).
- 8 million additional workers pushed to poverty.
- Disaster related deaths increased 6-fold in 2020.
- Impact of Ukraine crisis and inflation derailed progress.

Source: SDG Report, 2022



SDG 2: No Hunger

- Conflict, Climate Change and Inequalities undermine food security.
- Worldwide, 1 in 10 people suffering from hunger.
- 1 in 3 people lack access to food.
- 149.2 million children under 5 years suffer from stunting.
- Ukraine crisis caused food shortages for the poorest.



SDG 3: Good Health

- COVID-19 impacted 500 million people and led to 15 million deaths worldwide.
- Disrupted basic health services in 92% countries.
- Global life expectancy and immunization coverage fell.
- 22.7 million children missed basic vaccines in 2020.
- TB death rose for the first time since 2005.

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Progress on the SDGs



SDG 4: Quality Education

- COVID-19 has deepened Global Learning Crisis.
- Entrenched inequities in education have worsened.
- 147 million children missed in-person instructions.
- 24 million learners may never return to school.
- Globally, 50% primary schools lack access to computers and internet.

Source: SDG Report, 2022



SDG 5: Gender Equality

- Women accounted for 45% employment losses in 2020.
- At current pace, 40 years required for equal representation for women in national political leadership.
- 1 in 4 women subjected to intimate partner violence at least once in lifetime.
- 57% women making own decision on reproductive health.



SDG 6: Clean Water and Sanitation

- 85% of earth's wetlands lost in the last 300 years.
- 733+ million people live in countries with high and critical levels of water stress.
- At current rate, 1.6 billion people will lack safely managed drinking water, and 2.8 billion people will lack safe sanitation.
- Quality of water unknown for 3 billion people, as no monitoring.

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Progress on the SDGs



SDG 7: Clean Energy

- 733 million people without access to electricity.
- 679 million people to be without electricity in 2030 (projected).
- 2.4 billion people still use inefficient cooking systems.
- Financial flows to developing countries declining steadily.
- Share of Renewable Energy in final energy consumption is only 17% in 2019.

Source: SDG Report, 2022



SDG 8: Decent Work

- Global economic recovery hit by COVID-19 waves, inflation, supply chain disruption and labour market challenges.
- Global unemployment to remain above pre-COVID level till 2023.
- Ukraine crisis slowed down GDP per capita growth rate by 0.9 percentage points.
- Globally, 1 in 10 children engaged in child labour.



SDG 9: Industry and Infrastructure

- Global Manufacturing recovered from pandemic, but least developing countries left behind.
- High-technology industries more resilient in crisis.
- 1 in 3 manufacturing jobs negatively impacted by crisis.
- Small scale industries lack access to financial support.
- Passenger airline traffic still struggling.

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Progress on the SDGs



SDG 10: Reduce Inequalities

- COVID-19 has caused the first rise in between-country income inequality in a generation.
- 1 in 5 people have experienced discrimination on at least 1 ground prohibited under Human Rights Law.
- Global refugee numbers pushed to record high by Ukraine crisis.
- Number of refugees increased by 44% between 2015-21.

Source: SDG Report, 2022



SDG 11: Sustainable Cities

- 1 billion slum dwellers globally.
- Municipal solid waste (MSW) problems mounting. Globally, 82% MSW collected but only 55% managed in controlled facilities.
- 99% of world's urban population breathes polluted air.
- Countries with Local Disaster Risk Reduction Strategies increased from 51 in 2015 to 98 in 2021.



SDG 12: Responsible Consumption

- Unsustainable consumption and production pattern responsible for Triple Crisis: Climate Change, Biodiversity loss and Pollution.
- Reliance on natural resources increased 65% in 2000-19 period.
- 13.3% of world's food wasted between harvesting and retail market, 17% at consumer level.
- Globally, only 22.8% of e-waste is being collected.

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Progress on the SDGs



SDG 13: Climate Action

- Window to avoid climate catastrophe rapidly closing.
- Sea Level will rise by 30-60 cm by 2100.
- Drought estimated to displace 700 million people by 2030.
- Medium to large scale disasters will rise 40% from 2015 to 2030.
- Climate finance falls short of US\$ 100 billion yearly, US\$ 79.6 billion climate finance in 2019.

Source: SDG Report, 2022



SDG 14: Life below water

- Ocean ecosystem endangered from plastic pollution, over-fishing, ocean warming, acidification and eutrophication.
- 17+ million tons of plastic waste entered ocean in 2021, estimated to double/triple by 2040.
- Increased acidification threatening marine life, limiting capacity to moderate climate change (absorb 25% emissions).



SDG 15: Life on Land

- 10 million hectares of forests destroyed every year.
- ~90% of global deforestation due to expansion of agriculture.
- ~40,000 species at risk of extinction over the coming decades.
- Only 50% of freshwater, terrestrial and mountain key biodiversity areas are protected.
- Biodiversity has been neglected in COVID-19 recovery spending.

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Progress on the SDGs



SDG 16: Peace and Justice

- World is witnessing largest number of violent conflicts since 1946.
- 25% of global population lives in conflict affected countries.
- 100 million people forcibly displaced globally.
- 33% of world's population, mostly women fear walking alone at night in their neighbourhoods.
- Corruption is present in every region, ~17% businesses have received bribe requests from public officials.

Source: SDG Report, 2022



SDG 17: Partnerships for Goals

- Rising debt burdens threaten recovery of developing countries from impact of pandemic.
- Official Development Assistance (ODA) reached new high of US\$ 178 billion due to COVID related aid.
- FDI rebounded to US\$ 1.6 trillion in 2021, rising 64% from 2020.
- Remittances reached US\$ 605 billion in 2021, rising 9% from 2020.
- Internet uptake accelerated during pandemic, 63% individuals used internet in 2021 (54% in 2010).

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Source: [Down to Earth](#), [Down to Earth](#), [The Times of India](#), [UNEP](#)

State Finances: Trends and Concerns – Explained, pointwise

Introduction

A prudent fiscal position is necessary for overall development of a State and its people. However many recent studies have pointed out the deteriorating fiscal position of many States in India. This situation is a result of multiple factors like the impact of COVID-19 on State finances, high revenue expenditure and the rising freebie culture. Therefore a judicious expenditure mechanism needs to be created along with other steps so as to ensure that the States' Fiscal Deficits do not reach unsustainable levels.

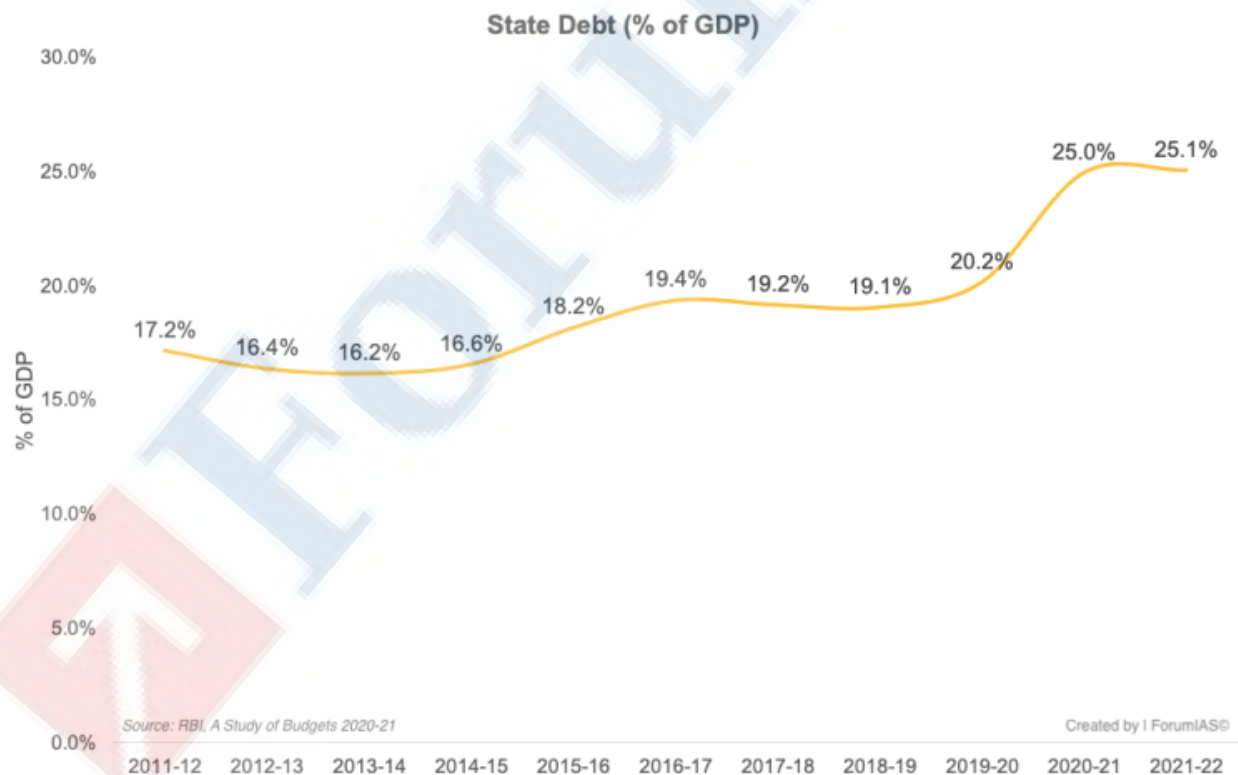
What is the current status of State Finances?

According to a recent RBI study, 10 states have a significantly high debt burden. These include Punjab, Rajasthan, Kerala, West Bengal, Bihar, Andhra Pradesh, Jharkhand, Madhya Pradesh, Uttar Pradesh and Haryana. These 10 states account for around half of the total expenditure by all State governments in India.

Among the 10 states, Andhra Pradesh, Bihar, Rajasthan and Punjab exceeded both debt and fiscal deficit targets for 2020-21 set by the 15th Finance Commission.

Further, Punjab's debt-GSDP ratio is projected to exceed 45% in 2026-27. Rajasthan, Kerala and West Bengal are projected to exceed the debt-GSDP ratio of 35% by 2026-27.

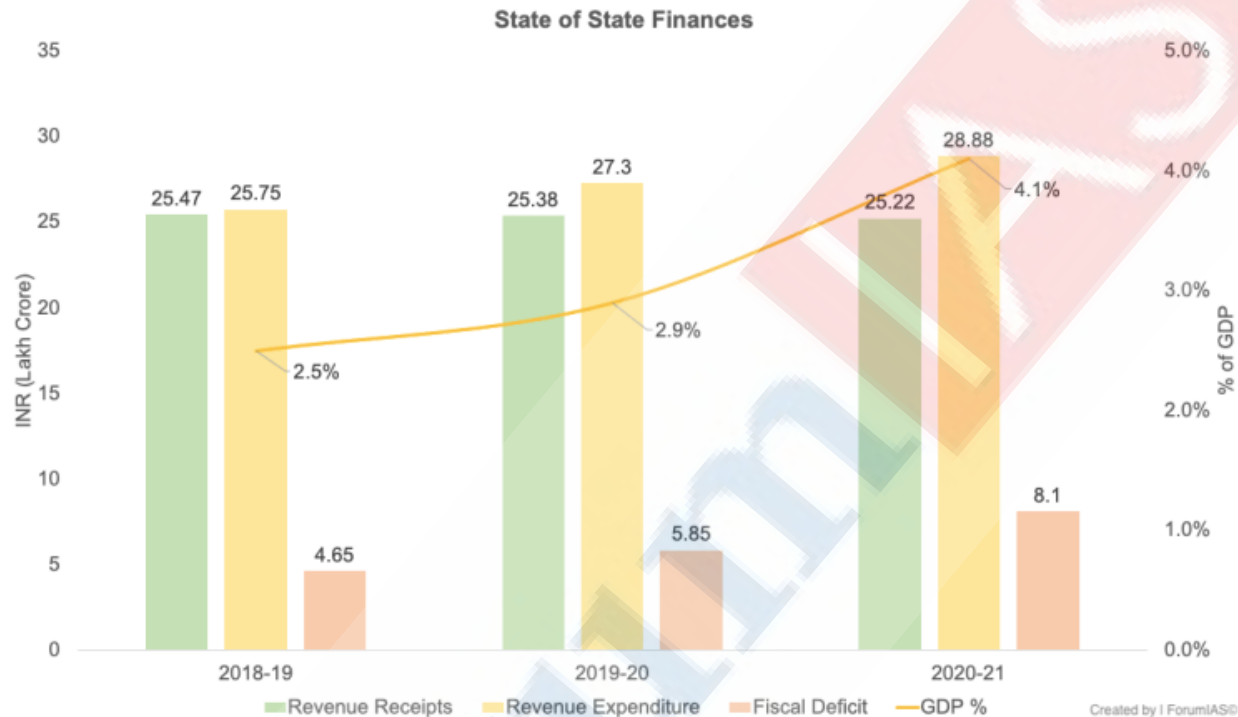
The cumulative debt of States has risen from 19.1% in 2018-19 to 25.1% in 2021-22.



Source: RBI. The cumulative State Debt Levels have seen a big jump from 2019-20 onward, with debt levels rising from ~20% of GDP to 25%. Many States have debt level >30%.

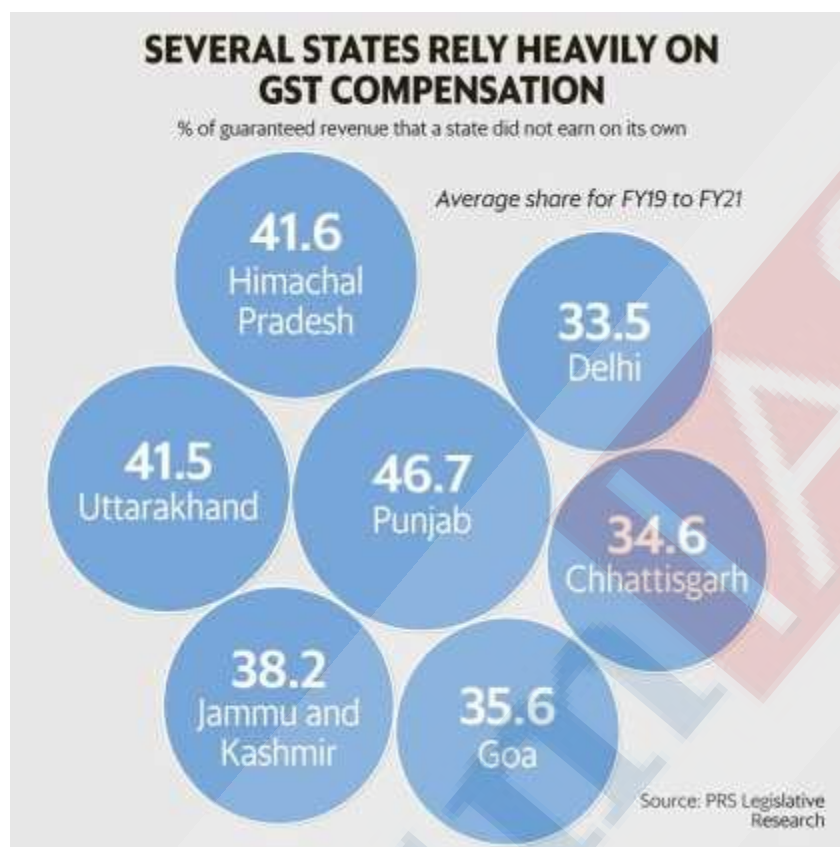
What are the reasons for the fiscal deterioration in these States?

Impact of Pandemic: Before the pandemic, the average gross fiscal deficit (GFD) to gross domestic product (GDP) ratio was at 2.5%, though some States ran fiscal deficits above 3.5%. But the pandemic significantly affected government finances. During the pandemic State's revenues were hit. Despite that, States continuously provided medical care and supported the vulnerable sections of the population.



Source: CAG. Due to negative impact of COVID-19, the cumulative revenue receipts of all State Governments fell from INR 25.47 Lakh Crore (2018-19) to INR 25.22 Lakh Crore (2020-21). The Revenue Expenditure rose from INR 25.75 Lakh Crore to INR 28.88 Lakh Crore in the same period. The Fiscal Deficit jumped from 2.5% of the GDP to 4.1% of the GDP.

Declining Tax Revenue: The own tax revenue of some of these states like Madhya Pradesh, Punjab and Kerala has been declining over time making them fiscally more vulnerable. Moreover, the revenue might fall sharply if the GST compensation is stopped from July 2022 e.g., significant part of Punjab's guaranteed revenue was met using compensation (37% in 2018-19, 47% in 2019-20, and 56% in 2020-21).



Source: Mint

High Revenue Expenditure: The share of revenue expenditure in total expenditure of these states varies in the range of 80-90%. This results in poor expenditure quality, as reflected in their high revenue spending to capital outlay ratios.

Significant Committed Expenditure: Committed expenditure like interest payments (on debt), pensions and administrative expenses accounts for a significant portion (over 35%) of the total revenue expenditure in some of these states. For some States, the interest payments exceed 20% of the Revenue Receipts of the Government like Haryana (23%), Punjab (21%), Tamil Nadu (21%). This constraints State finances.

High DISCOMs Losses: The combined losses of DISCOMs in the five most indebted states, viz Bihar, Kerala, Punjab, Rajasthan and West Bengal, constituted 24.7% of the total DISCOMs losses in 2019-20. While their combined long-term debt was 22.9% of the total DISCOM debt in 2019-20. The sudden jump in cumulative debt (refer figure above) from 16% to 18% between 2014-15 to 2015-16 was due to the States assuming DISCOMs' debts.

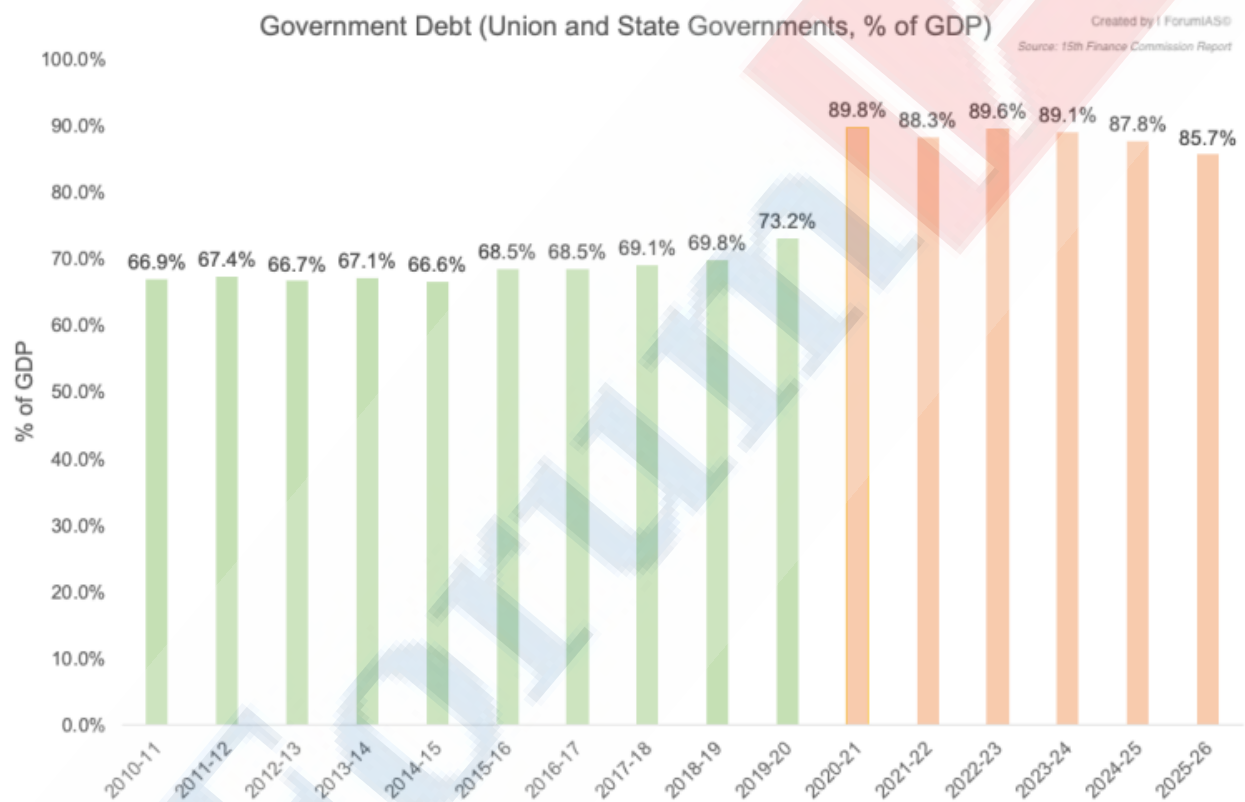
Freebie Culture: Political parties are outdoing each other promising free electricity and water, laptops, cycles etc. The freebies put a significant strain on the fiscal position of State governments and can't be easily taken back by succeeding governments.

Legal Loopholes: The current FRBM provisions mandate that the Governments disclose their contingent liabilities, but that disclosure is restricted to liabilities for which they have extended an explicit guarantee. In reality, the State governments resort to **extra-budgetary borrowings** to finance their populist measures. This debt is concealed to circumvent the FRBM targets. Further,

there is **no comprehensive information in the public domain** to assess the size of this off-budget debt.

What are the risks highlighted by RBI to State Government Finances?

The RBI study has also underlined several risks to State government finances. The RBI projections suggest that most States would have a debt-GSDP ratio of over 30% by 2026-27. These risks are: **(a)** Growing preference for distribution; **(b)** Some States **reverting to the old pension scheme** is also a cause for concern; **(c)** The **guarantees extended to State-owned enterprises** and the mounting debt of power distribution companies; **(d)** According to estimates, **the off-budget borrowings of state governments have increased to about 4.5% of GDP**; **(e)** The **end of the compensation regime** under the goods and services tax would further weaken the fiscal position of the states.



The 15th Finance Commission projects the combined Union and State Government Debt levels to hover around 86-89% till 2025-26. Of this, State Debts will be in the range of ~30-31% on an average.

What are the implications of the poor state of State Finances?

The costs of fiscal profligacy can be huge. It can have an adverse impact on India's macroeconomic stability.

The more States spend on transfer payments, the less they have for spending on physical infrastructure and social infrastructure, which are vital to improve growth and generate jobs.

It will lead to the growth of debt burden which will eventually implode in future. There are discussions indicating that 'some States might go down the Sri Lankan way' by entangling themselves in a debt trap.

It may impair the fiscal position of the centre who may have to give concessionary credit to states and pay their external obligations.

What steps have already been taken for improving States' Finances?

As a first step, a system of performance budgeting was introduced to assess performance against set goals/objectives. However, this was not able to establish a clear one-to-one relationship between financial budgets and performance.

Outcome budgeting was introduced in 2006-07, which also recognized that outlays do not necessarily mean outcomes.

A framework was suggested by the RBI study in 2009. This study proposes a **“triple E framework”** to assess expenditure quality, which has constituents of expenditure adequacy, effectiveness and efficiency: **(a) Expenditure adequacy** is in terms of focusing on the government's primary role; **(b) Effectiveness** is about assessing performance; **(c) Efficiency** involves an assessment of the output-input ratio.

What recommendations have been given by RBI to improve State Finances?

In the near term, State governments must restrict their revenue expenses by cutting down expenditure on non-merit goods.

In the medium term, States need to put efforts towards stabilizing debt levels.

In the longer term, States need to increase the share of capital outlays in the total expenditure. This will help create long-term assets, generate revenue and boost operational efficiency.

Moreover, States also need to undertake **large-scale reforms in the power distribution sector** to reduce losses and make them financially sustainable and operationally efficient.

Alongside, State governments need to conduct fiscal risk analyses and stress test their debt profiles regularly to be able to put in place provisioning and other specific risk mitigation strategies.

What more can be done?

First, the FRBM Acts need to be amended. Its provisions should be expanded to cover all liabilities of the Government whether budget borrowing or off-budget borrowing, regardless of any guarantee.

Second, at present, the States are required to take the permission of Union Government when they borrow, under the Constitution. Therefore, the Union Government should not hesitate to impose conditionalities while giving permission. While doing so, the Government must act transparently and objectively.

Third, the Government should also focus on decreasing the magnitude of black economy. It erodes the fiscal pool of the Government and leads to suboptimal spending.

Fourth, in the longer run, eradication of unnecessary freebie culture requires an attitudinal change in the masses. Public should elect governments on the basis of performance and development outcomes, rather than doling out of freebies.

Conclusion

Given that the general government debt has increased sharply, India needs an overall medium-term consolidation road map. An unsustainable level of debt in some of the large States would not only affect growth prospects, but could also pose risks to macroeconomic stability.

Syllabus: GS III, Government Budgeting

Source: [Mint](#), [Business Standard](#), [Indian Express](#), [The Hindu](#), [PRS](#)

India-Africa Relationship – Explained, pointwise**Introduction**

India-Africa Relationship has a long and rich history. India's freedom movement became an inspiration for African nationalists in their desire for independence from colonialism. India shares close and friendly relationship with many African countries that are built on mutual trust and confidence. Leveraging this, countries have managed to collaborate on various fields like trade, education, skill, health etc. In present times, both India and Africa desire a mutually beneficial relationship through greater trade and investment partnerships. The ongoing 17th Confederation of Indian Industry-Exim Bank Conclave on the India-Africa Growth Partnership offers an opportunity to take the relationship to next level. However, this would require overcoming the challenges between them and harnessing each other's strength.

What is the history of India-Africa Relationship?

India has a long history of partnership with Africa. The solidarity and political affinity goes back to the early 1920s when both regions were fighting against colonial rule and oppression. India's freedom movement had an internationalist outlook; many Indian nationalists viewed the struggle for independence as part of the worldwide movement against imperialism.

After India gained independence, it became a leading voice in support of African decolonisation at the United Nations. Independent India, though extremely poor, strived to share its limited resources with African countries under the banner of South-South cooperation.

In 1964, India launched the Indian Technical and Economic Cooperation (ITEC) programme to provide technical assistance through human resource development to other developing countries. African countries became the greatest beneficiaries of it.

What is the current status of India-Africa Relationship?

Economic: According to the Confederation of Indian Industry, in 2020-21, India's exports to and imports from Africa stood at US\$ 27.7 billion and US\$ 28.2 billion respectively. Top 5 markets for Indian exports in Africa are South Africa, Nigeria, Egypt, Kenya and Togo. India's top importers are South Africa, Nigeria, Egypt, Angola and Guinea.

India's top three exports to Africa are mineral fuels and oils (processed petroleum products), pharmaceutical products and vehicles. Mineral fuels and oils, (essentially crude oil) and pearls, precious or semi-precious stones are the top imports accounting for over 77% of India's imports from Africa.

India's cumulative investments in Africa stand at US\$ 70 billion. Lines of Credit (LoCs) worth US\$ 12.26 billion have been extended to African countries that significantly impacted the

development. For instance, India's irrigation project in Senegal led to a six-fold increase in rice production.

THE AVERAGE COMPOSITION OF INDIA'S INVESTMENT IN AFRICA BY SECTOR, 2017-2019

India's investment in Africa has accelerated in recent decades and has been heavily concentrated in certain industries.

For example, transport, storage, and communication services account for just under half of that investment (44 percent). Manufacturing and financial, insurance, and business services roughly account for another third (35 percent).



SOURCE: Reserve Bank of India. (2021). Foreign Direct Investment data. Reserve Bank of India

Source: Brookings Institution

Social: In 2017, under the Indian Council for Cultural Relations (ICCR), ~50,000 scholarships had been granted to African students over 5 years. The Indian Technical and Economic Cooperation (ITEC) program is assisting Africa in giving people opportunities to learn new skills and acquire knowledge through training programs.

Security: Many African nations are members of the IORA (Indian Ocean Rim Association) that aims to strengthen maritime safety and security of the Indian Ocean. Similarly, the first-ever India Africa Defence Ministers Conclave (IADMC) was held in Lucknow, Uttar Pradesh in conjunction with DefExpo in 2020.

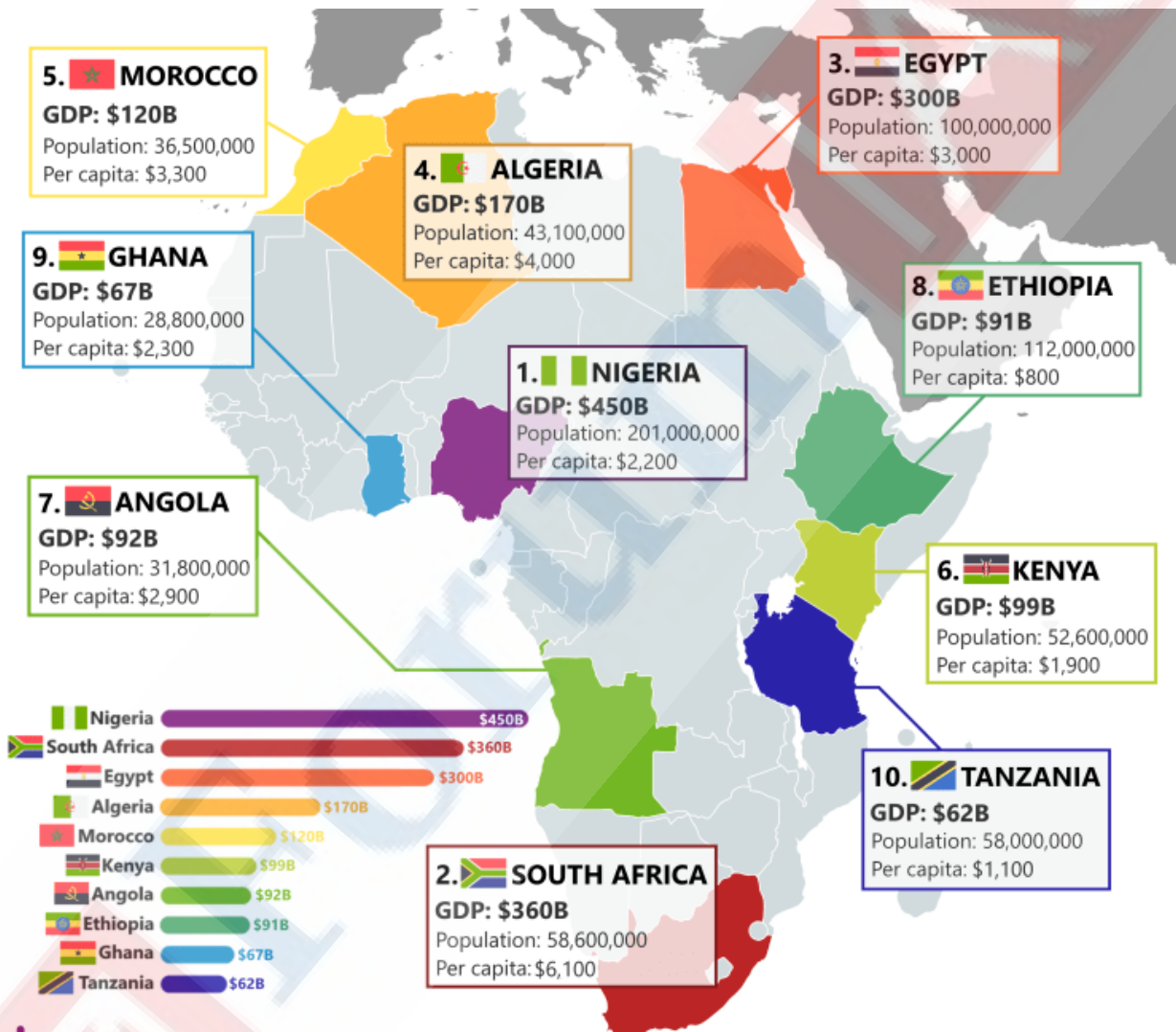
Digital Cooperation: The **Pan African e-Network**, launched in 2009, was a groundbreaking initiative to extend Indian expertise in IT to provide better healthcare and education facilities in 53 African countries. The second phase of this programme, **e-VidyaBharti and e-ArogyaBharti** (e-VBAB), was started in 2018. It aims to provide free tele-education to 4,000 African students each year for five years and medical education for 1000 African doctors, paramedical staff, and nurses.

International Cooperation: India and Africa have often held common positions at various global platforms and worked together to guard the interests of other developing countries. They have moved joint proposals, such as the Agricultural Framework Proposal and Protection of Geographical Indications, at the World Trade Organization (WTO) and World Intellectual Property Organization (WIPO).

What is the significance of India-Africa Relationship?

Huge Economic Potential: The African Continental Free Trade Area (AfCFTA) provides a wide scope to create the largest free trade area in the world by geography and an opportunity to lift 30 million people out of extreme poverty. It can help promote India-Africa bilateral trade and investment under AfCFTA.

There are opportunities in services trade with Africa in the fields of Information Technology (IT), Mobile payment solutions, banking, and financial services. India's success in manufacturing vaccines and pharmaceuticals, and advances in telemedicine, can open up new opportunities in the pharmaceuticals and the healthcare sector.



10 largest economies in Africa

Source: International Monetary Fund, 2019
United Nations, 2019 population

Top 10 Economies in Africa, 2019 estimates

Infrastructure Development in the African Continent: India has the world's third-largest start-up ecosystem. Thus, it could count on its strengths to fortify the digital infrastructure in Africa, thereby contributing to the achievement of the continent's Agenda 2063.

The AfCFTA seeks to facilitate international supply chains for food, pharmaceuticals, and various other essential products. India can help in building important infrastructure for cross-border supply chains. It will help Indian industries to operate efficiently in Africa.

Soft Power: India commands a significant degree of soft power across the continent. It is amplified by the presence of Indian Diaspora in countries like Mauritius. This helps in building trust between the nations and effective implementation of joint projects. Women consist of 90% of Africa's labor force in the informal sector, engaged mainly in education, healthcare, and tertiary services. India's efforts in these areas under AfCFTA would enhance its brand image across the continent.

Common Agendas: Most African nations are developing in nature just like India which creates a common understanding on multiple issues. India and Africa share common grounds on reformation of the UNSC, Climate change agreements, Trade Issues and WTO negotiations etc.

What are the challenges associated with India-Africa relationship?

Flaws in India's development strategy in Africa: **Firstly**, India is not actively pursuing any specific development goals. An assessment of India's development cooperation instruments (LoCs, grants, and capacity building projects like ITEC) reflect the absence of a plan for Africa. Indian LoCs have not been designed to achieve a larger development goal such as food security, health security, clean energy or education for all.

Secondly, there is no synchronisation between different development instruments. LoCs, grants and capacity building initiatives operate as standalone instruments of development cooperation, with almost no links with each other. As a result, the overall development impact of India's development cooperation is small and difficult to measure. Moreover, implementation has been a key constraint for Indian LoCs, with poor disbursal rates and project completion record.

Increased presence of China: China has successfully used the pandemic to expand its footprint by increasing the outflow of its vaccines. Unfortunately, India's 'vaccine diplomacy' faced challenges like COVID-19 second wave, shortage of vaccine raw materials from the U.S., etc.

Lack of Focus: Geopolitical tensions in Asia and the imperative to consolidate its position in the Indo-Pacific region have compelled India to deviate from greater focus on the India-Africa relationship. Instead, India concentrated on its ties with the United Kingdom, the EU, and the Quad powers, particularly the US.

Competition from Peers: A dozen nations from America, Europe and Asia have come forward to assist Africa in resolving the continent's political and social challenges. It has created intense competition among nations, especially the United States, the European Union (EU), China, Japan and India. For instance, China is currently the second most popular destination for African students after France, which hosts about 95,000 African students. The poor quality of education in India restricts African students despite huge scholarships provided to them.

Racial Attacks: Incidents of racial attacks on African nationals have severely dented India's image. If untreated, this could be a potential source of tension between India and Africa and damage the goodwill India currently enjoys in the continent.

What steps can be taken to enhance India-Africa Relationship?

Clear strategy for African development: India should prepare a focused Africa strategy for the next decade and identify a few areas for closer cooperation. Targeting a few important areas like food and health security, climate change adaptation and gender equality will help improve development outcomes and make India's development cooperation programme more effective.

Continue the current focus on capacity building: A simple focus on building physical infrastructure and economic growth will not contribute to a stable and prosperous Africa. Investment in human capital is the key to development in Africa. The current focus on capacity building is in line with Africa's needs given the continent's huge youth population that need skills and jobs.

Harness Indian civil society organizations, NGOs, and Indian diaspora: The Government should explore greater collaboration with them to implement development projects in Africa at low costs. Some Indian organizations like Pratham and Barefoot College are already playing an important role in Africa.

Timely completion of projects: Efforts must be made to expedite the LoC projects. Lessons should be drawn from other countries that have a much better record in implementation.

Address concerns about academic experience in India: India must make large-scale investments in domestic higher education sector to project itself as an education hub for neighbouring countries and Africa.

Improve the experiences of Africans in India: Indian government should ensure that Africans studying or working in India are safe and enjoy their stay in the country. Efforts should also be made to educate Indians about Africa so that people-to-people connections between India and Africa flourish.

Conclusion

The future development partnership should be guided keeping in mind Africa's priorities. It should be on terms that are comfortable for Africa, liberate its potential and not constrain its future. India should cooperate with the African nations as per the Gujral Doctrine of **Generosity rather than Reciprocity**.

Syllabus: Bilateral, regional and global groupings and agreements involving India and/or affecting India's interests, India and its neighbourhood relations.

Source: [Mint](#), [The Times of India](#), [NewsOnAir](#), [ORF](#), [Brookings](#)

Fall in Rupee Value: Reasons, Concerns and Solutions – Explained, pointwise**Introduction**

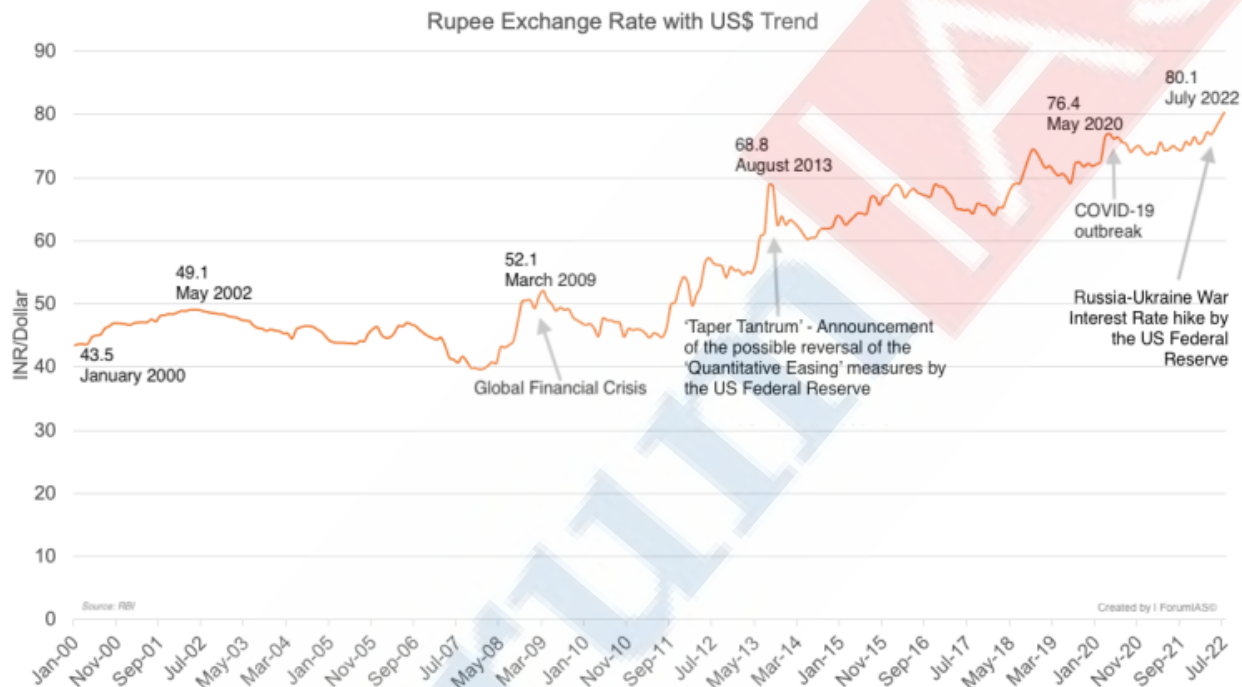
There has been a consistent deterioration of Indian Rupee's (INR) exchange rate with respect to the US Dollar (\$) over the last few months. It breached the psychologically significant exchange rate level of INR 80 to a US\$ in early trade on 19th July, 2022, although it recovered to close at 79.90. The fall in Rupee has been going on since the war in Ukraine began, and crude oil prices started going up. The deteriorating exchange rate poses another challenge to the policymakers; in addition to the high inflation and rising unemployment.

What has been the recent trend of Rupee's Exchange Rate?

The Indian Rupee has been witnessing a steady decline this year, losing more than 6% against the US\$ since the beginning of 2022.

In the last 10 months, the Rupee's exchange rate with the Dollar has fallen 8.7%, from 73.6 to 80. However, historically the Rupee depreciates by about 3% to 3.5% in a year.

Further, many experts predict that Rupee may weaken to ~US\$ 82 in the coming 3-4 months. In fact, the International Monetary Fund (IMF) foresees the Rupee to fall to 94 Rupees to a US\$ mark by FY2029.



What are the reasons for fall in Rupee value?

First, the **U.S. Federal Reserve** has been **raising its benchmark interest rate** since March 2022. With higher interest rates in the US, investors can get better returns by investments in the US. Hence, they have started to pull-out their money from emerging markets such as India. This, in turn, has put pressure on emerging market currencies which have depreciated significantly against the US Dollar so far this year.

Even developed market currencies such as the Euro and the Yen have depreciated against the Dollar and the Dollar index is up more than 9% so far this year.

Currency	Jan 2022	Jul 2022	Change (%)
Yen	114.86	136.73	19
Pound	0.74	0.84	13.4
Euro	0.88	0.98	11.3
Rupee	74.45*	79.38*	6.6
Yuan	6.35	6.72	5.7
Brazilian Real	5.53	5.37	-2.8
Rouble	76.61	59.89	-21.8

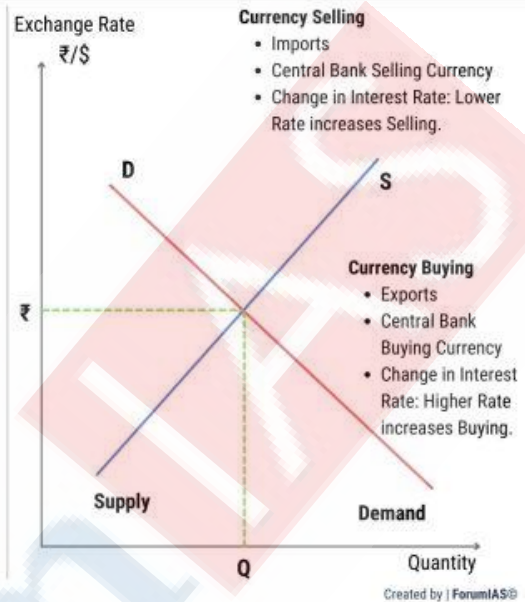
Source: The Times of India. Major global currencies have depreciated in relation to the US\$ since January 2022. The major reason is the increase in the interest rates by the US Federal Reserve. Russia-Ukraine war and the rise in commodity prices have also contributed to the trend. In fact, in relative terms, Rupee has performed better than Yen, Euro and British Pound. Rouble has appreciated because of increase in oil trade in Russian Rouble due to sanctions.

Second, India's current account deficit is expected to **hit a 10-year high of 3.3% of GDP** in the current financial year. The import bill has been rising due to **high oil prices since the Russian invasion of Ukraine**. The war has also resulted in steep rise in prices of other commodities which has made the situation worse.

Third, a major reason for Rupee depreciation has been **consistently higher domestic price inflation in India**. Higher inflation in India suggests that the RBI has been creating Rupees at a faster rate than the US Federal Reserve has been creating Dollars.

Determination of Exchange Rate

- The value of a currency is determined by its **demand and supply**.
- When **supply** of a currency **increases**, its **value drops**.
- Conversely, the **value rises with increase in demand**.
- The Supply of a currency is determined by the **Central Bank**. The demand depends on the amount of goods and services produced in the economy.
- In the Foreign Exchange (Forex) market, the **supply of Rupees** is determined by the **demand for imports** and foreign assets e.g., a high demand to import oil would lead to an increase in the supply of Rupees and cause the rupee's value to drop.
- The **demand for Rupees** in the Forex market depends on the **foreign demand for Indian exports** and domestic assets e.g., the foreign investments in Indian markets lead to increase in supply of US Dollars. Consequently, the value of Rupee rises.



How does the RBI respond to the fall in Rupee?

As a matter of policy, the RBI has usually tried to slow down or smoothen (rather than reverse or prevent) the fall in exchange value of the Rupee against the US Dollar.

The aim of the RBI's policy is to allow the Rupee to find its natural value in the market but without undue volatility or causing unnecessary panic among investors. **State-run banks are usually instructed by the RBI to sell Dollars** in order to offer some support to the Rupee. By selling Dollars in the open market in exchange for Rupees, the RBI can **improve demand for the Rupee** and cushion its fall.

The RBI is also seen **raising benchmark interest rates** to defend the Rupee by preventing any rapid outflow of capital from India as done by it in May 2022.

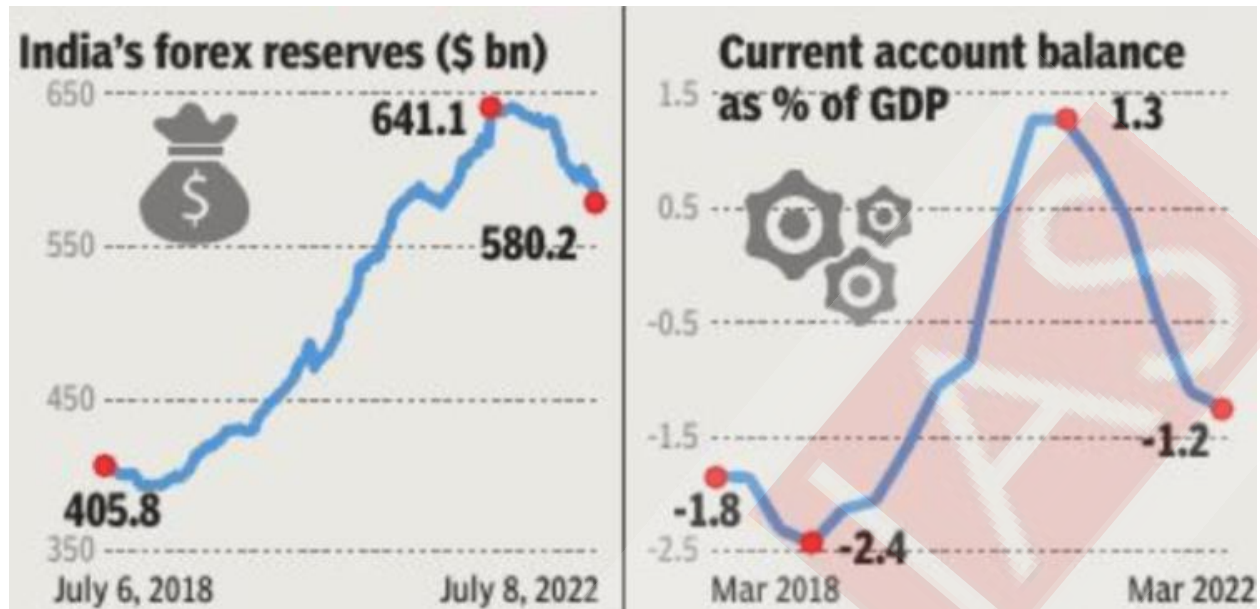
What are the concerns associated with fall in Rupee?

First, forex reserves have fallen by **over US\$ 50 billion** between September 2021 and June 2022. RBI officials have noted that the drop in forex reserves is due to a fall in the Dollar value of assets held as reserves by the RBI.

Second, when the Rupee depreciates, **importing goods and services becomes costlier**. Since a large proportion of India's imports (like oil) are Dollar-denominated, these imports will get costlier.

Costlier imports, in turn, will **widen the trade deficit** as well as the **current account deficit**. This will put further pressure on the exchange rate.

The Ministry of Finance has hinted that **India's fertilizer subsidy bill** for 2022-23 (FY23) could rise to around INR 2.5 trillion against Budget Estimates (BE) of INR 1.05 trillion (almost 2.5 times). The rise is because of a global supply shortage in the midst of war in Ukraine and rising exchange rates.



Source: The Times of India

Third, since Rupee is not the only currency weakening against the Dollar, the net effect on exports will depend on how much has the other currency lost to the Dollar. If the other currency has lost more than the Rupee, the **net effect on exports could be negative**.

Fourth, India is **already facing high inflation** and continued depreciation may be making matters worse. Costlier imports (because of a weaker Rupee) add to the **cost-push inflation** and enhance domestic inflationary process.

Fifth, A weakening Rupee **hurts foreign investors**, who came looking for a good return, **as well as Indians, who have loans abroad**.

What are the mitigating factors?

First, the **Rupee is still more resilient** against the Dollar than it was in some of the previous crises such as the Global Financial Crisis of 2008 and the 'Taper Tantrum' of 2013, when the US Federal Reserve reversed '**Quantitative Easing**'.

Second, India's products become more competitive because depreciation makes these products cheaper for foreign buyers. This will give **a boost to domestic producers and enhance exports**.

Third, the US Dollar is just one of the currencies Indians need to trade. Comparing with a basket of currencies, data suggests the Rupee has **become stronger than many other currencies** such as the Euro.

Fourth, India is still **not facing an external crisis** (or BoP Crisis). The data show that India is in a relatively comfortable position.

In 2021-22, India had a trade deficit of US\$ 189.5 billion. India had imported more goods (such as crude oil) than it exported, and the net effect was negative. But the Invisibles account showed a surplus of US\$ 150.7 billion. As a result, the Current Account showed a deficit of US\$ 38.8 billion.

However, there was a surplus of US\$ 86.3 billion in the Capital Account. This was driven by foreign direct investments (FDI) providing more Dollars in the shape of loans etc. At the end of the year, the BoP was at a surplus of US\$ 47.5 billion.

What is the Balance of Payment Account?

- The BoP is a ledger of all monetary transactions between Indians and foreigners. If a transaction leads to Dollars coming into India, it is shown with a positive (+) sign; if a transaction results in Dollars leaving India, it is shown with a minus (-) sign.
- The BoP has two broad subheads (also called 'Accounts') — Current and Capital — to slot different types of transactions.
- The **Current Account** is divided into the **Trade Account** (for export and import of goods) and the **Invisibles Account** (for export and import of services).
 - So if an Indian buys an American car, Dollars will flow out of BoP, and it will be accounted for in the trade account within the current account.
 - If an American invests in Indian stock markets, Dollars will come into the BoP table and it will be accounted for under FPI within the capital account.
- The **Capital Account** includes net **foreign investments** (foreign direct investment and foreign portfolio investments) and **loans** or money that countries borrow from each other.

What lies ahead?

First, it is neither wise nor possible for the RBI to prevent the Rupee from falling indefinitely. Defending the Rupee will result in India exhausting its forex reserves over time because global investors have much bigger financial clout. Most analysts believe that the better strategy is to **let the Rupee depreciate** and act as a natural shock absorber to the adverse terms of trade. Thus, RBI should focus on containing inflation which is its legal mandate.

Second, the Government should contain its borrowings. Higher borrowings (fiscal deficit) by the Government consume domestic savings. Hence, the Industrial and other sectors of economy are forced to borrow from abroad.

Third, over the long run, the Rupee is likely to continue to depreciate against the Dollar given the significant differences in long-run inflation between India and the U.S.

Fourth, the U.S. Federal Reserve has raised rates to tackle historically high inflation in the US that hit a 41-year high of 8.6%. This will induce other countries and emerging markets in particular to raise their own interest rates to avoid disruptive capital outflows and to protect their currencies.

Fifth, domestic inflation hit a 95-month high of 7.8% in April 2022. The RBI too has been trying to rein in the consumer price inflation by raising rates and tightening liquidity.

As interest rates rise across the globe, the **threat of a global recession also rises** as economies readjust to tighter monetary conditions.

Conclusion

The exchange rate has fallen to its historical low of 80, however Indian Rupee has shown a better performance in comparison to currencies of emerging economies. The inflation divide between the U.S and India will continue to further depreciate the Rupee. Nonetheless, with proactive fiscal and monetary measures, India can stabilize its currency value.

Syllabus: Indian Economy and Issues related growth and development.

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

[Yojana July Summary] Policies on Scheduled Tribes – Explained, pointwise**Introduction**

At the time of Independence, the framers of the Constitution noted that certain tribal communities in India were suffering from extreme social, educational and economic backwardness. The backwardness was on account of the primitive agricultural practices, lack of infrastructure facilities and geographical isolation. In order to uplift such communities, robust provisions were made in the Constitution of India. Later on successive governments formulated several policies on Scheduled Tribes (STs) and took various steps for improving their position. These policies and initiatives have helped in improving their situation but certain challenges still impede their development and needs adequate redressal.

About the Scheduled Tribes (STs)

The word 'tribe' was originally a Latin word *tribus*, meaning 'the poor', later used to specify the masses. Traditionally, Scheduled Tribes enjoyed total autonomy over the governance of their affairs. This system of autonomy was dismantled during the British Raj in India.

Tribal communities in India were viewed with derision by the British and various legislations were brought to alienate them from their ancestral rights and further criminalized upon demanding their rights. However, this perception was completely shunned by Constitution makers who inserted many provisions for uplifting the tribal communities.

The Constitution of India in Article 366 (25) prescribes that the Scheduled Tribes mean such tribes or tribal communities as are deemed under Article 342 of the Constitution to be Scheduled Tribes. The **Article 342** states that the President may specify the tribes or tribal communities which shall be deemed to be Scheduled Tribes in relation to that State or Union Territory.

Scheduled Tribes (ST) constitute approximately **8.6% of the population** of India numbering around 10.4 crores. There are over 705 Scheduled tribes notified under article 342 of the Constitution of India.

What are the key features of the tribal communities?

The tribal communities have certain unique features that distinguish them from others; **(a)** Identification with nature; their inseparability with nature in body, mind and spirit; **(b)** Coexistence, amity and empathy with other living beings; **(c)** Collective living or collective subsistence and the principle of 'sharing'. They believe in sharing the food, land and forest resources, sharing the seeds, labour and hardship, sharing the misfortunes and risks in living in mountains and forests, and so on; **(d)** Non-accumulation of personal property or wealth or in other words, sustainable and simple living; **(e)** Restraint and resolving disputes by withdrawal. The tribal people never encroach; rather they generally withdraw, and avoid conflicts.

What Constitutional Safeguards have been provided to the Scheduled Tribes?

Provisions to prohibit discrimination: **Article 15** prohibit discrimination on grounds of religion, race, caste, sex or place of birth. Similarly under **Article 17** of the Indian constitution untouchability has been abolished.

Equal opportunities: **Article 16** pertains to equality of opportunity in matters of public employment. **Article 46** promotes educational and economic interests of scheduled castes, scheduled tribes and other weaker sections.

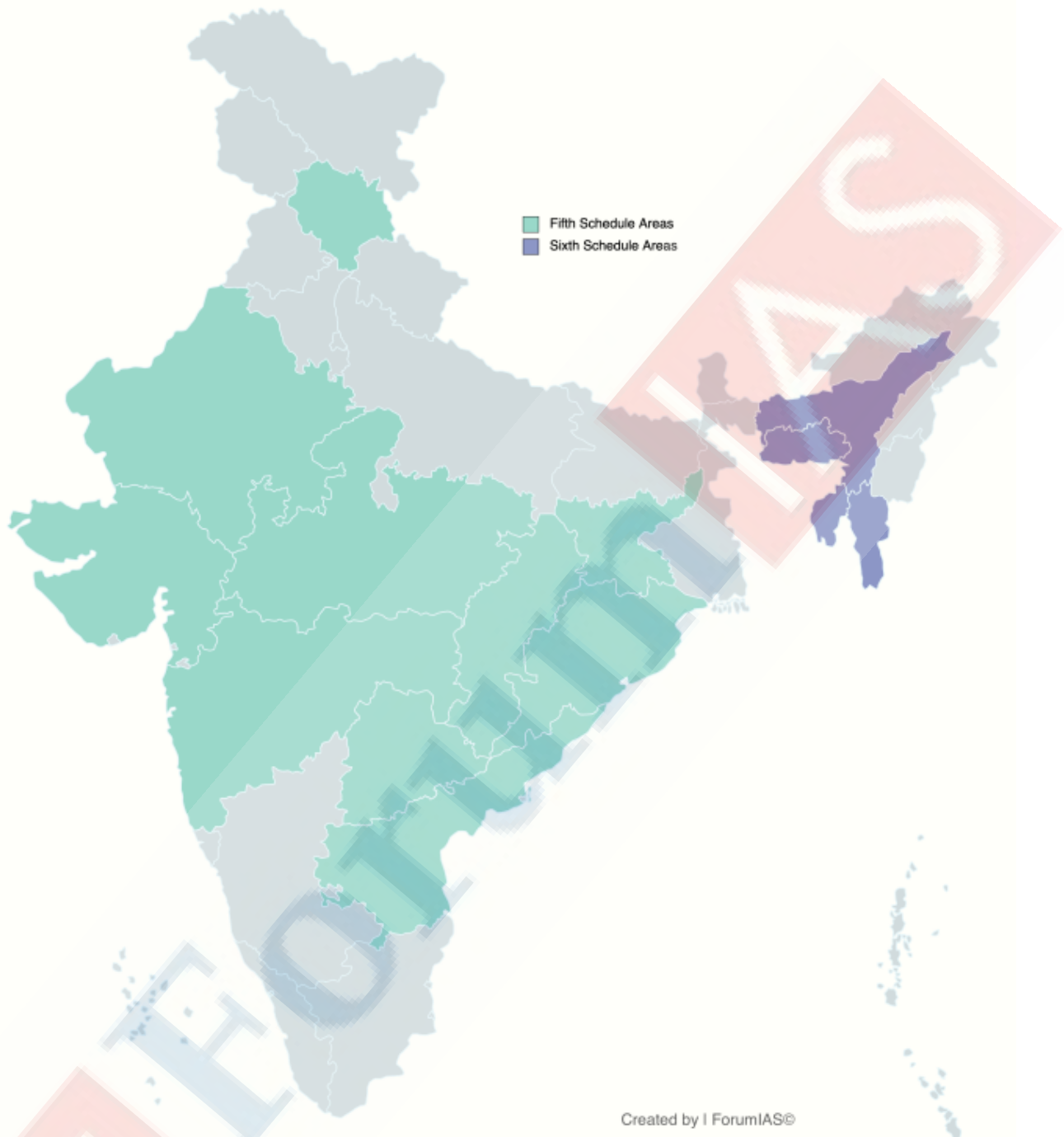
Safeguarding Tribal Interests: Under, **Article 19 (5)**, special restrictions may be imposed by the State on freedom of movement and residence for the protection of the interests of any Scheduled Tribe.

Article 330 and 332: It reserves seats for STs in Schedule areas, thus granting them representation to safeguard their rights and interests.

Areas where Schedule Tribes are numerically dominant, two distinct administrative arrangements have been provided for them in the Constitution in the form of the **Fifth and Sixth Schedules**.

The **Fifth Schedule of the Constitution** deals with the administration and control of Scheduled Areas as well as of Scheduled Tribes residing in any State other than the States of Assam, Meghalaya, Tripura and Mizoram. It provides for establishment of a Tribes Advisory Council (TAC) in any State having Scheduled Areas. The States with Fifth Schedule Areas are Andhra Pradesh, Chhattisgarh, Gujarat, Himachal Pradesh, Jharkhand, Madhya Pradesh, Maharashtra, Odisha, Rajasthan and Telangana.

The **Sixth Schedule of the Constitution** provides for the administration of tribal areas in Assam, Meghalaya, Tripura and Mizoram to safeguard the rights of the tribal population in these states. The Sixth Schedule provides for autonomy in the administration of these areas through Autonomous District Councils (ADCs).



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Minister in-charge of tribal welfare: Article 164 provides for a Minister-in-charge of tribal welfare in the states of MP, Chhattisgarh, Orissa and Jharkhand. These states have substantial tribal populations and special provision of a Minister looking after tribal welfare was desired for safeguarding the interests of Scheduled Tribes.

National Commission for Scheduled Tribes: Article 338-A calls for establishing the National Commission for Scheduled Tribes. Role of commission include: **(a)** Investigate and monitor all matters relating to the safeguards provided for the Scheduled Tribes under the Constitution or under any other law; **(b)** Inquire into specific complaints with respect to the deprivation of rights

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and safeguards of the STs; **(c)** Participate and advise on the planning process of socio-economic development of the STs and evaluate the progress of their development under the Union and any State.

What Legal Acts and Policies have been enacted for the welfare of the Scheduled Tribes?

Protection of Civil Rights Act, 1955: This was enacted to stop the practice of untouchability. This Act provides assistance to the States and Union Territories for the implementation of the Constitutional provisions for the Scheduled Tribes. It also provides funding for the States to assist victims of atrocities and for the provision of incentives for the creation of special courts, inter-caste marriages and awareness generation.

Scheduled Castes and the Scheduled Tribes (Prevention of Atrocities) Act, 1989: This Act was enacted in order to prevent the commission of offences of atrocities against the members of the Scheduled Castes and the Scheduled Tribes. The Act provides for Special Courts for the trial of such offences and for the relief and rehabilitation of the victims of such offences and for matters connected.

Panchayats (Extension to the Scheduled Areas) Act, 1996: It was enacted in order to provide for the extension of the provisions of Part IX of the Constitution relating to the Panchayats to the Scheduled Areas.

Recognition of Forest Rights Act, 2006: It recognises and vests forest rights and occupation on forest land to STs. The right to ownership to land farmed by tribals or forest dwellers is granted subject to a maximum of 4 hectares. Under the Act various rights including title rights, use rights, relief and development rights etc. are given.

What are the problems faced by the Scheduled Tribes?

Resource exploitation: The rapid technological advancement and globalization have created favorable conditions for the evasion and extraction of natural resources from the ecologically fragile territories of tribal people.

Displacement: From time to time, the tribals have faced displacement and deprivation to facilitate various developmental projects such as setting up of industrial operations, construction of dams, etc..

Cultural Deprivation: A common expectation from them is to follow the mainstream culture for their own growth. This hinders their beliefs and practices, thus erasing their identities under pre-established systems.

Poor Health Conditions: The percentage of underweight ST children is around 40% in 2015-16. Tribal constitutes 8% of India's total population but they have 30% of all cases of Malaria. Prevalence of TB in the rest of India is 256 per 100,000 cases but in tribals, it is 703 cases per 100,000 almost three times.

Which schemes have been launched for the welfare of the Scheduled Tribes?

Janjatiya Gaurav Divas: It is dedicated in the memory of brave tribal freedom fighters so that coming generations could know about their sacrifices for the country.

Eklavya Model Residential Schools (EMRS): It are model residential schools for Scheduled Tribes across India. It aims to impart quality education to ST children in remote areas.

Pradhan Mantri Van Dhan Yojana: The Ministry of Tribal Affairs launched it in 2018, under the Forest Rights Act of 2005. It aims to provide remunerative and fair prices to tribal gatherers of their Minor Forest Produces. It could be almost 3 times higher than what would be available to them from the middlemen.

Adi Prashikshan Portal: It aims to act as a central repository for information on all training programmes conducted by Tribal institutions across the country under *Adi Prashikshan*-Training for Tribals initiative.

Panchsheel for Tribal Development

- People should develop along the lines of their own genius, and the imposition of alien values should be avoided.
- Tribal rights in land and forest should be respected.
- Teams of tribals should be trained in the work of administration and development. Introducing too many outsiders into tribal territory should be avoided.
- Tribal areas should not be over administered or overwhelmed with a multiplicity of schemes.
- Results should be judged not by statistics or the amount of money spent, but by the human character that is evolved.

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Conclusion

Tribals with their organic lifestyle and beliefs challenge the modern way of reckless living and development needs. Their sustainable living provides lessons to the world struggling with pressing issues like climate change and environmental issues. Our country is making efforts towards restoring the legacy of the tribal communities, their identity and inheritance. It is therefore imperative that the policymakers continue to safeguard the tribal rights so as to ensure inclusive development of the society.

Syllabus: GS II, Welfare schemes for vulnerable sections of the population by the Centre and States and the performance of these schemes; Mechanisms, Laws, Institutions and Bodies constituted for the protection and betterment of these vulnerable sections.

Source: Yojana July 2022

CAQM Policy to Combat Air Pollution in Delhi NCR – Explained, pointwise

Introduction

The Commission for Air Quality Management (CAQM) has announced a new policy to fight air pollution in Delhi-NCR (National Capital Region) over the next 5 years. It includes a revised Graded Response Action Plan (GRAP), among other short-term, medium-term and long-term measures. The release of policy was desired considering the deteriorating situation of air pollution levels in the Delhi NCR region. Experts believe the revamped policy will play a crucial role in encouraging states to take more proactive steps than merely relying on reactive measures.

What is the situation of air pollution in India?

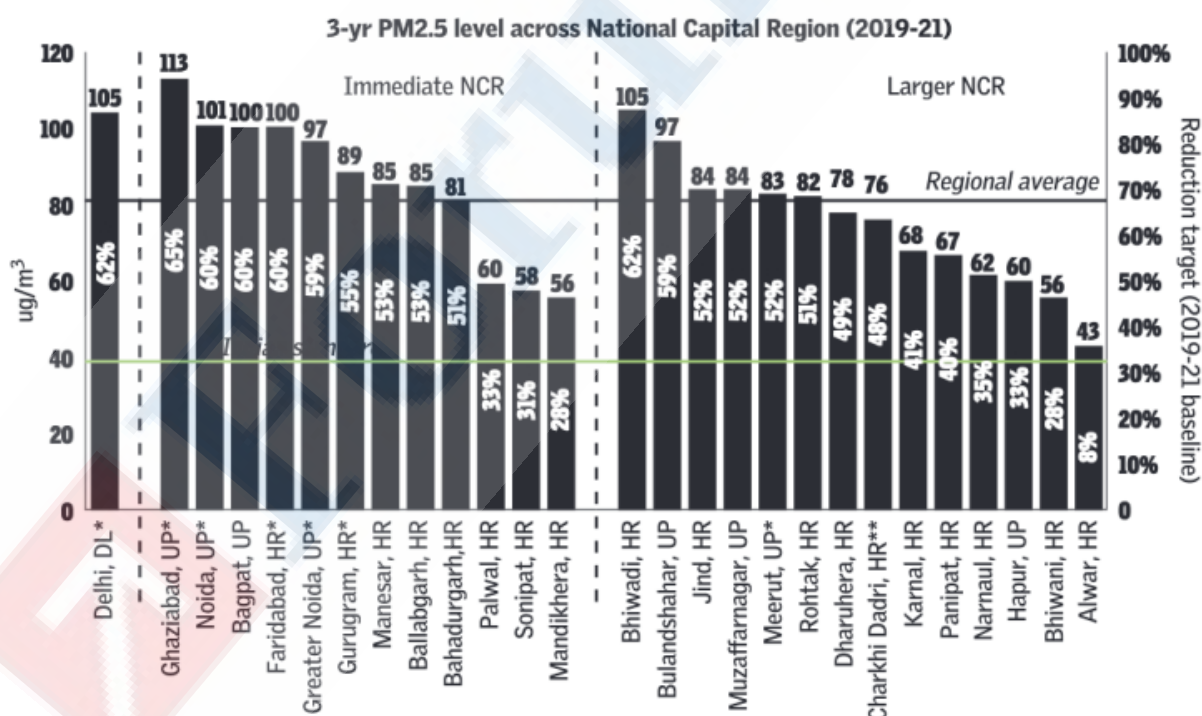
According to WHO, of the 20 most polluted cities in the world, the top 14 are Indian cities. These include Kanpur, Faridabad, Varanasi, Delhi, etc.

The Environmental Performance Index (released by World Economic Forum) ranked India 178th out of 180 countries in terms of air quality.

Read More: [The Controversy Regarding Environment Performance Index – Explained, pointwise](#)

According to Central Pollution Control Board data, 11 most polluted cities in the country are from Uttar Pradesh. Ghaziabad is the most polluted city in the country followed by Gurugram.

PM_{2.5} levels in Delhi-NCR: Three-year average, 2019-21



Source: CAQM

Read More: [Air Quality Life Index \(AQLI\) – Explained, pointwise](#)

Commission for Air Quality Management (CAQM)

- It is a statutory body formed under the Commission for Air Quality Management in National Capital Region and Adjoining Areas, Act 2021.
- The Commission aims at better coordination, research, identification, and resolution of problems related to air quality in NCR and adjoining areas.
- The CAQM has replaced the Environment Pollution (Prevention and Control) Authority (EPCA) which was appointed by the SC and had been active for 22 years.

Graded Response Action Plan (GRAP)

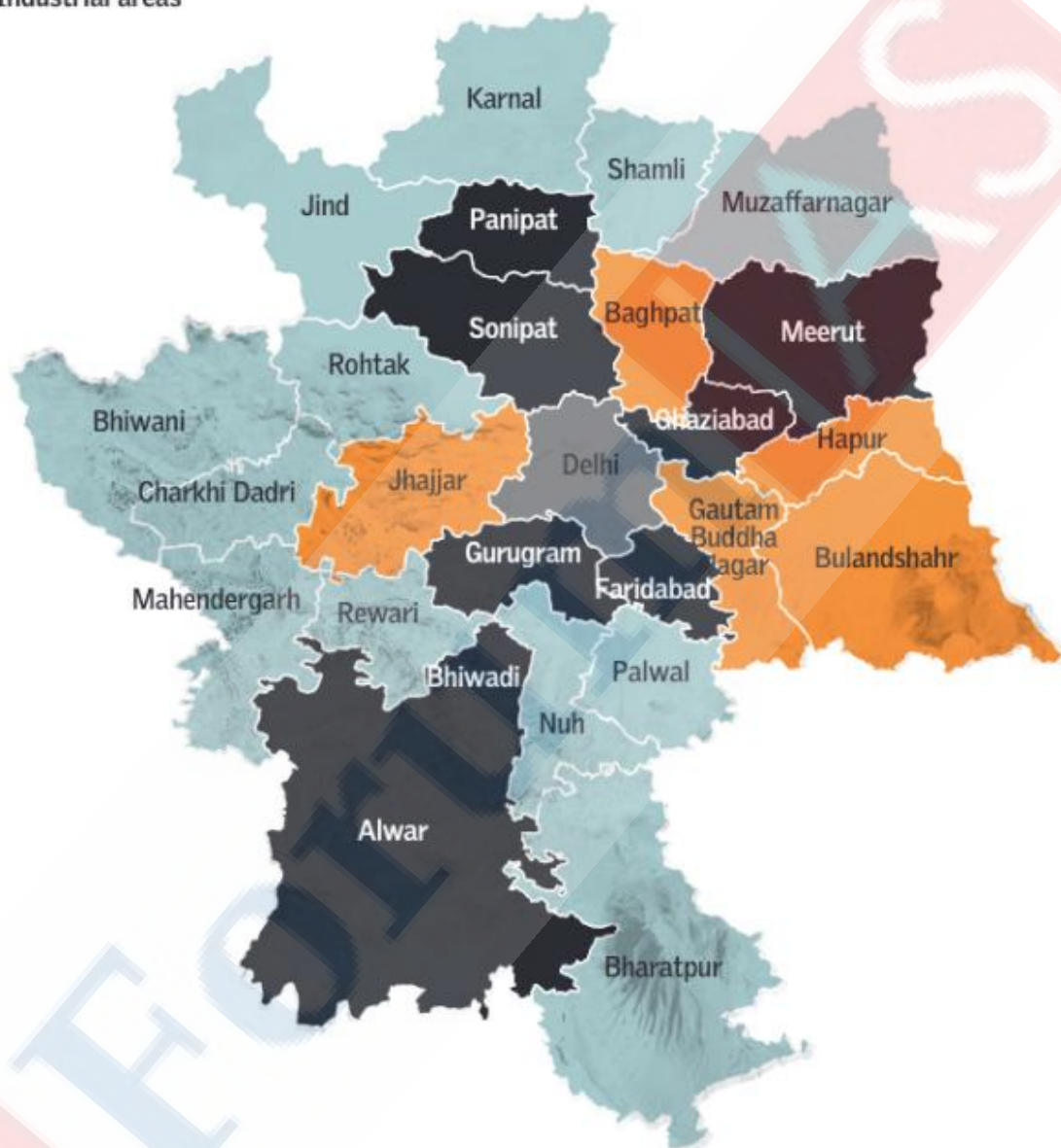
- The plan was formulated after several meetings between the Environment Pollution (Prevention and Control) Authority (EPCA) and the State Government representatives and experts. The result was a plan that institutionalized measures to be taken when air quality deteriorates. The Plan was approved by the Supreme Court in 2016, and notified for Delhi-NCR in 2017.
- GRAP works only as an emergency measure. As such, the plan does not include action by various State Governments to be taken throughout the year to tackle industrial, vehicular and combustion emissions.
- The plan is incremental in nature — therefore, when the air quality moves from 'Poor' to 'Very Poor', the measures listed under both sections have to be followed.

Success of GRAP

- The biggest success of GRAP has been in **fixing accountability and deadlines**. For each action to be taken under a particular air quality category, executing agencies are clearly marked.
- In a territory like Delhi, where a multiplicity of authorities has been a long-standing impediment to effective governance, this step made a crucial difference.
- Also, coordination among as many as 13 agencies from 4 states is simplified to a degree because of the clear demarcation of responsibilities.
- Three major policy decisions that can be credited to EPCA and GRAP are the closure of the thermal power plant at Badarpur, bringing BS-VI fuel to Delhi before the deadline set initially, and the ban on Pet coke as a fuel in Delhi-NCR.

Industrial areas in Delhi-NCR

- High Density Industrial areas
- Low Density Industrial areas
- Other Industrial areas



Source: CAQM. Industrial Areas in Delhi NCR. NCR States include Rajasthan, Haryana and Uttar Pradesh.

What are the reasons behind deteriorating air quality in Delhi-NCR?

Air pollution become particularly severe and hazardous during the winter season:

Natural

Northwesterly Winds: Month of October marks the withdrawal of Monsoon winds (South-West) from North India, leading to the arrival of North-Easterly winds. The northwesterly winds bring-in dust from dust storms originating in Rajasthan, Pakistan and Afghanistan.

Wind speed: High wind speed in summers facilitates the faster movement of particulate matter in the air. As the wind speed decreases in winters, the air is not able to draw the pollutant away from a region.

Landlocked Geography of Delhi: Geography of Delhi and the northern plains is landlocked. While the source wind from North-West is already having pollutants; the Himalayas obstruct the escape route of air.

Anthropogenic

Industrial chimney wastes: There are a number of industries which are a source of pollution. The chief gases are SO₂ and NO₂. There are many food and fertilizers industries which emit acid vapours in air.

Automobiles pollution: Toxic vehicular exhausts are a source of considerable air pollution. In all the major cities of the country about 800 to 1000 tonnes of pollutants are being emitted into the air daily, of which 50% come from automobile exhausts.

Construction Activities: The rapid pace of development of roads, buildings and other physical infrastructure causes a significant degree of dust pollution.

Stubble Burning: Stubble Burning by farmers of neighboring States exacerbate the situation. The pollutants travel towards Delhi and become stationary over it due to low wind speed and calm conditions.

Sector-wise contribution of PM_{2.5} reported in three recent emission inventories in Delhi-NCR

Emission sectors	Delhi (2015)	Emission sectors	Delhi (2018)		NCR (2018)	
	IITK (in %)		SAFAR (in %)	TERI-ARAI (in %)	SAFAR (in %)	TERI-ARAI (in %)
Transport	20	Transport	41	39	39	12
Industrial-stack	11	Industry	19	3	22	23
Industrial area	2	Power plants	5	11	3	8
Domestic burning	12	Residential burning	3	6	6	24
Solid waste burning	3	Wind blown (includes construction)	21	26	18	7
Road dust	38					
Construction/Demolition	2					
Hotels/Restaurants	3	Others*	11	15	12	26
Others*	9					

Note: IITK-Others* — included DG sets, MSW burning, crematoria, aircraft, hotels/restaurants, medical incinerators.

SAFAR -Others* — included brick industry, hotels (dhabas), hospitals, malls, waste and biomedical waste burning, crematorium, DG sets, etc

TERI-ARAI-Others* — included DG sets, refuse burning, crematoria, airport, restaurants, incinerators, landfills, etc.

Source: CAQM. Sectoral contribution to PM_{2.5} pollution in the Delhi NCR. Although magnitude varies across studies, Transport, Industrial and Construction Sectors are the major contributors.

What are the provisions of the CAQM Policy?

Suggested revisions to the GRAP: Under the new GRAP for Delhi-NCR, there will be 4 different stages of adverse AQI: Stage I – Poor (AQI 201-300); Stage II – Very Poor (AQI 301-400); Stage III – Severe (AQI 401-450); and Stage IV – Severe Plus (AQI over 450).

Taking **action based on the air quality index (AQI)** and not the existing system of response that kicks in based on particulate matter concentrations.

Action taken when AQI is 'very poor', 'severe' or 'severe+' will be invoked **'at least 3 days in advance'** of the AQI reaching the projected levels of that stage' based on forecasts. Under the existing plan, action was initiated when pollution levels reached a certain threshold, and **not in advance**.

Ban on construction activities will set in when AQI is 'severe', and NCR State governments may impose restrictions on BS-III petrol and BS-IV diesel four-wheelers.

Under restrictions in the 'severe+' category, there is likely to be a ban on plying of 4-wheeler diesel light motor vehicles in Delhi and districts bordering Delhi, except for BS-VI vehicles and those used for essential or emergency services. Under this category, State Governments will decide on allowing 50% of staff to work from home in public, municipal and private offices. They may also consider additional measures like closure of educational institutions, and plying of vehicles on odd-even basis.

The **previous plan did not have any specific restrictions on light motor vehicles**, apart from enforcement of Pollution Under Control (PUC) norms, and odd-even for private vehicles.

WHAT WILL HAPPEN NOW
Thinking ahead | Air quality to be forecast and restrictions/actions implemented three days in advance

AQI to be forecast daily by the Indian Institute of Tropical Meteorology (IITM)

Four stages of restrictions based on AQI

- 1 Poor
- 2 Very poor
- 3 Severe
- 4 Severe+


Action from stages II to IV to be imposed (three days in advance)

- > Restrictive action under previous stages to continue in the next stage if AQI worsens
- > Regular review of GRAP implementation by a group of experts
- > Cars (LMVs) running on BS-IV diesel to be restricted under 'severe+' category' projections
- > IITM developed an 'Air Quality Early Warning System' for air quality forecast for Delhi-NCR

How old GRAP worked – After air quality worsened

PM _{2.5} and PM ₁₀ were monitored for 48 hours	Action/restrictions implemented only when PM _{2.5} remained severe for at least two days	If pollutants dispersed right before 48-hours cycle due to factors like wind, the restrictions were not
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Key restrictions under revised GRAP (Graded Response Action Plan)

Stage II  <ul style="list-style-type: none"> > Ban on diesel generator sets, except for emergent and essential services > Ban on coal/firewood, including tandoors in hotels/restaurants open eateries 	Stage III 'Severe' AQI category (401-450) <div> <div> Ban on C&D activities in NCR, essential projects (like Metro and defence) and non-dust generating activities, such as plumbing, interior decoration </div> <div> Regulate operations of industries in NCR not running on PNG/cleaner fuels to maximum five days per week </div> <div> Shutting down of brick kilns, hot mix plants, stone crushers not operating on clean fuels </div> <div> <div> Ban on mining and associated activities in NCR </div> <div> Delhi-NCR govts may restrict vehicles running on BS-III petrol and BS-IV diesel </div> </div> </div>		
Stage IV 'Severe+' AQI category (AQI >450) <ul style="list-style-type: none"> > Ban on plying of four-wheeler diesel light motor vehicles in Delhi and bordering districts, except BS-VI > Stop entry of truck traffic into Delhi 	<div> <div>(except essential commodities)</div> <ul style="list-style-type: none"> > CNG/electric trucks to be allowed > Ban on diesel-run medium and heavy goods vehicles in Delhi </div>	<ul style="list-style-type: none"> > Ban on industries in NCR not running on cleaner fuel, except dairy & medical units > Ban on C&D activities like highways, roads, flyovers, 	<div> <div>overbridges, etc</div> <ul style="list-style-type: none"> > Delhi- NCR govts may impose 50% work from home for public and private offices > Educational institutions may be shut </div> 

Source: The Times of India

Clean Energy: The Ministry of Petroleum and Natural Gas (PNG), Ministry of Finance, and NCR State Governments could consider PNG under the ambit of lower slabs under the GST. This will ensure 'uniform and affordable' PNG pricing policy.

Air Quality Monitoring Network: While Delhi has a sufficient number of monitoring stations (50 out of 146 in the NCR), a plan of action is to be devised by the CPCB and State PCBs by July 31 to strengthen the monitoring network in other NCR districts.

Transport sector: The Ministry of Road Transport and Highways is to formulate norms for monitoring on-road vehicles with remote sensing devices for emissions surveillance by December 31 this year. The target for implementation of this remote monitoring mechanism in cities in the NCR is 25% of the planned network by December 2024, and 50% of the planned network by 2025.

The policy also recommends that NCR State Governments prepare a policy for retro fitment of vehicles to electric, and a system for collection of used batteries and engines for disposal by December this year.

Stubble Burning: It also stressed the need to upscale the use of the bio-decomposer solution to deal with paddy straw in the harvest season of 2022. The policy targets 60% of total paddy straw generated to be managed through in-situ and ex-situ measures by December 31, 2022, 80% by 2024, and 100% by 2026.

What is the significance of the new Policy?

First, placing PNG under a lower GST slab will ensure **greater adoption vis-a-vis coal**. This will reduce emission levels as PNG is less polluting than coal.

Second, it **takes into consideration deficits in infrastructure and systems across the NCR sub-regions** leading to variations in baseline actions. The targets are set keeping in mind regional variations and improvement potential.

Third, the focus on strengthening the quality of air pollution data. Filling the gaps through sensor-based monitoring to cover rural and peri-urban areas will help authorities take **preventive measures**.

Fourth, taking a **multi-pollutant approach** to control critical gases like nitrogen dioxide and ozone will help reduce exposure to toxic gases and control secondary particulate matter formation.

What lies ahead?

First, the success of policy depends on the degree of cooperation and coordination undertaken by specific Union and State organizations. Amongst all, **cooperation between CAQM and CPCB is most essential for the success of the new policy**.

Second, the State Governments of the NCR region must **fill the critical infrastructure gaps** that impede the implementation of policy measures. For instance, vehicle restraint measures are difficult to implement during smog episodes if the public transport infrastructure is inadequate in the region.

Third, the **Environment Ministers of Delhi NCR region should meet at least once a month** to effectively monitor the implementation of the new policy.

Fourth, apart from this, India must establish **a national environment regulator** just like SEBI (Stock Market regulator), RBI (Banking sector regulator) etc.

Conclusion

The policy is a step in the right direction to improve the worsening situation of air quality in the NCR region. However its success will truly depend on timely and effective implementation at the ground level. It is a measure that will help in providing the masses a clean and healthy environment which is sine qua non for a dignified living.

Syllabus: GS III; Conservation, environmental pollution and degradation.

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

Whistleblower Protection in India – Explained, pointwise

Introduction

Two Whistleblowers, associated with 'Panama Papers' and 'Uber Files' revelations, have recently done interviews with media outlets. Whistleblowing incorporates two words: 'Whistle' and 'Blowing' which means blowing a whistle or revealing some information in front of the public. The information can be about public or private organizations/institutions about activities which are deemed to be illegal, immoral or fraudulent. The people who disclose the wrong-doings are known as 'Whistleblowers.' The Panama Papers leak disclosed information about tax evasion by the Global Rich through offshore entities and shell corporations in tax havens. The Uber Files disclosed the unethical practices of Uber in order to achieve global dominance in the ride-hailing

segment. Experts lament that revelations of this scale are not possible in India. They argue that the Whistleblower Protection law in India is inadequate to give a significant degree of protection to the whistleblowers. This calls for taking robust measures to improve whistleblower protection framework in India.

What are different types of whistleblowers?

Internal Whistleblowers: These are whistleblowers who inform or report to the higher authority of the organizations where the wrongful act is being done. The discretion of checking that act is on the superior of the company or the organization only. Usually, the government is not involved with the inquiry and procedure to rectify the illicit work. It is taken care of by the organization itself without any interference from an outside party.

External Whistleblowers: They refer to the people who report illegitimate ongoing work in a specific organization to the external people including the media reporters, the concerned Government officers, etc. Public good and safety is the chief purpose of reporting it to the external authority. Another reason for accounting it to external authority could be the negligence in the redressal of such fraud or illicit activity within the organization.

What is the Whistleblower Protection Framework in India?

In 2004, the Government introduced the **Public Interest Disclosure and Protection Of Informers (PIDPI)** Resolution for the logging of complaints against alleged corruption or misuse of office by a Government officer or Department. The **Central Vigilance Commission (CVC)** was designated as the agency to administer complaints, which it continues to routinely route to its relevant section after masking the name of the whistleblower.

India **became a signatory to the UN Convention against Corruption** in 2005. The Convention talks about the reporting of corruption done by the public or private entities and protecting the spectators and whistleblowers from the retaliation faced by them.

Companies Act, 2013: Various Sections (Section 206-229) in the Companies Act, 2013 talk about the inspection and inquiry matters. Section 208 of Companies Act, 2013 authorizes an Inspector to look through the records and suggest for further investigation in the situation of doubt. Further, Section 210 empowers the Union Government to investigate any suspected illegal matter either by the intimation of the inspector or registrar of the company.

Securities and Exchange Board of India: It mandated that every company listed under SEBI must have a whistleblower policy and have a responsibility to make every employee aware of such policy. From December 2019, SEBI has also introduced a **reward mechanism** as a kind of inducement to **'Informants'** who report a violation of insider trading laws to SEBI.

Whistleblowers Protection Act, 2014: The Act aims to protect people who bring to the notice of the authorities concerned allegations of corruption, misuse of power or commission of a criminal offense against a public servant. Under the Act, every complaint has to include the identity of the complainant. The Vigilance Commission shall not disclose the identity of the complainant except to the head of the department if he deems it necessary. The Act penalizes any person who has disclosed the identity of the complainant.

What is the need to strengthen Whistleblower Protection Framework?

Augmenting Transparency and Accountability: A strong framework would ensure that the government and its organizations work as per the prescribed code of conduct. It will allow upright employees to come forward and reveal any corrupt activity in the organization. Further, Whistle-

blower protection can go a long way to **enable good corporate governance** and provide an early warning system for potential crises, such as the one at IL&FS in India.

Protecting Citizen Rights: Ensuring whistleblower protection will mean that the State is unable to undermine citizen rights. For instance, robust protection laws in the U.S gave Edward Snowden the confidence to expose numerous illegal global surveillance programs, many run by the National Security Agency. This prompted a cultural discussion about **national security and individual privacy**.

Preventing Hardships to whistle blowers: Under the current regime, whistleblowers tend to face multiple hardships which restrain many honest individuals to blow the whistle. These include: **(a) Livelihood Loss:** Whistleblowers are sometimes cornered in an organization and in extreme situations are forced to quit their job. Further, future employers may be reluctant to hire them as they fear that information about their organizations might be revealed; **(b) Death Threats:** The powerful people whose scams are about to get exposed often resort to giving death threats to whistleblowers and their families. In some extreme cases, the whistleblowers have also been killed e.g., Satyendra Dubey was murdered in Gaya, Bihar, allegedly for his anti-corruption related actions in the Golden Quadrilateral highway construction project. A study by Accountability Research Center (2015) revealed that 50 RTI activists had been murdered between 2007-14 and numerous other faced assault and harassment.

NATURE OF REPRISALS AND ISSUE AT A GLANCE (2007–2014)

Nature of reprisal	Issue category					Total
	Land/natural resources	Development/welfare programmes	Bureaucratic/administrative matters	Delivery of public services	Others	
Death	18	16	7	5	4	50
Assault	29	26	11	9	9	84
Harassment	27	32	24	5	13	101
Total	74	74	42	19	26	235

Source: Accountability Research Center. Attacks on RTI Activists.

Legislative Lacunas: Both the Companies Act and the SEBI rules cover listed companies. Unlisted companies such as Unicorns and the small and medium enterprise sector remain outside the purview of any whistle-blower rules

The internal mechanism mandated under the Company Act remains subordinate to the management of the company. A whistle-blower will remain completely prey to the management's whims.

Further, the **Whistle Blowers Protection Act 2014** is limited to public servants and doesn't cover private companies. There are several other shortcomings: **(a)** Under the Act, the competent authority to whom any complaint on victimization can be made is usually the senior official in the hierarchy. This makes it difficult for the informant to complain against retaliation or receive any protection; **(b)** The Act **does not allow anonymous complaints** to be submitted and any

anonymous complaints received are not investigated; **(c)** Transparency activists criticize the Government for its **failure to operationalize the Whistleblowers Protection Act** by framing the Rules. Instead, the Government had tried to dilute the Act through a proposed Amendment Bill in 2015, although the Bill lapsed in 2019; **(d)** The Act does not provide for any reward being granted to a whistleblower upon successful investigation of his claims.

What should be done to strengthen the Whistleblower Protection Framework?

First, the Government should amend the Whistleblowers Protection Act to provide universal protection to the whistleblowers in India. Many States in the US (like Florida, Hawaii, Minnesota) have considered both public and private sector employers to be included under the whistleblower's protection acts.

Second, a robust reward mechanism must be created under the Whistleblowers Act for incentivisation. At the same time, fines against false and frivolous complaints also need to be enhanced.

Third, the Government must formulate the Rules necessary to operationalize the Whistleblower Protection Act.

Fourth, the whistleblowers should be given freedom to report their complaint to independent authorities rather than senior officials. For instance, in the U.S, there are separate offices established under different laws with neutral investigators who are responsible for investigating any claims submitted to them by a whistleblower. They are specifically designed to receive and investigate whistleblower complaints.

Conclusion

The Government needs to ensure that whistleblowers are given an enabling ecosystem wherein they are incentivized and not threatened to disclose the illegal practices carried on in any organization. Strengthening the Whistleblower Protection mechanism is necessary to enhance transparency and accountability in public institutions.

Source: [Mint](#), [Indian Express](#), [Mondaq](#)

The Need for a New Foreign Trade Policy – Explained, pointwise

Introduction

Various aspects of globalization are being rethought all over the world, and this includes rethinking trade policy. India is also going through this process. The Ministry of Commerce is working on a new trade policy to be unveiled in September 2022. The Government may roll out a new foreign trade policy (FTP) of a shorter term of two-three years in a bid to keep pace with the fast-evolving scenarios in international trade. These have been triggered by recent disruptions, such as the pandemic and the Russia-Ukraine war.

What is a Foreign Trade Policy (FTP)?

An FTP is an elaborate policy guideline and strategy to promote the export of goods and services, usually with a duration of 5 years. It sets out the regulations for cross-border trade and reveals the Government's position on a host of crucial policy variables such as technology flow, intangibles, and so on.

Revisited and notified every five years since the 1991 economic reforms, the FTP has been the guiding beacon for all stakeholders. The last FTP was notified in 2015, and the new policy was due in April 2020. However, it has been periodically extended since then, and the new policy is expected by September 2022.

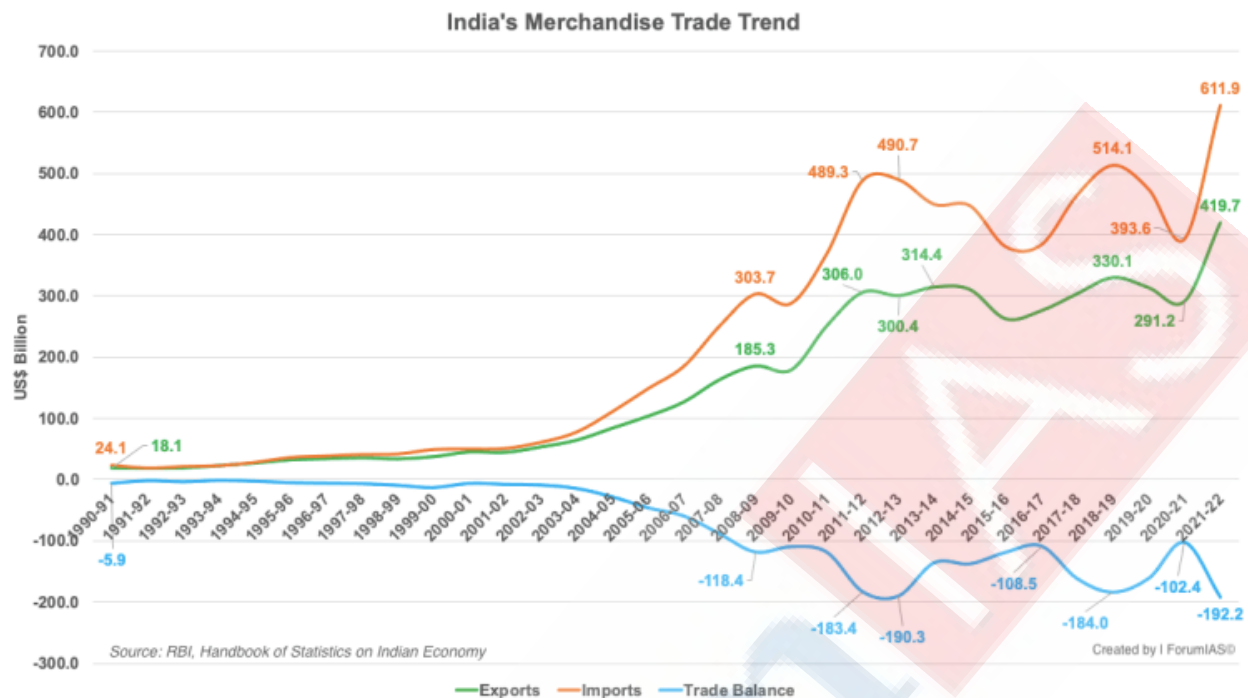
India's Foreign Trade Policy 2015-20 (Extended to 2022)

- It provides a **framework for increasing exports of goods and services** as well as generation of employment and increasing value addition in the country, in line with the 'Make in India' programme.
- The Policy aims to enable India to respond to the challenges of the external environment, keeping in mind the rapidly evolving international trading architecture.
- FTP 2015-20 introduces two new schemes, namely -
 - 'Merchandise Exports from India Scheme (MEIS)' for export of specified goods to specified markets.
 - 'Services Exports from India Scheme (SEIS)' for increasing exports of notified services.
- For grant of rewards under MEIS, the countries have been categorized into 3 Groups. The rates of rewards under MEIS range from 2-5%. Under SEIS the selected Services would be rewarded at the rates of 3% and 5%.
- Measures have been adopted to nudge **procurement of capital goods from indigenous manufacturers** under the Export Promotion Capital Goods (EPCG) Scheme by reducing specific export obligation to 75% of the normal export obligation.
- Measures have been taken to give a **boost to exports of defense and hi-tech items**.

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What is the current status of India's Foreign Trade?

India achieved highest good exports in 2021-22 at US\$ 419.7 billion. However, there was a significant jump in the imports, which also recorded their highest level ever at US\$ 611.9 billion. The trade deficit stood at US\$ 192.2 billion.



India has run a consistent Trade deficit in Merchandise Trade since 1991. The deficit reached highest level in 2021-22 at US\$ 192 billion (18.6% of total trade (Exports + Imports). However, in % terms, trade deficit was worse in 2008-09 (US\$ 118.4 billion, 24.2% of trade) and 2012-12 (US\$ 190.3 billion, 24.1% of trade).

The trend is similar in 2022-23 so far. For Q1 FY2022-23 (first quarter, April – June 2022), the exports were US\$ 119 billion, imports US\$ 189.8 billion and trade deficit at US\$ 70.8 billion.

India's share in world exports of goods had been declining before the reforms and had fallen to 0.5% in 1990. It has improved in the post-reforms period to touch 0.7% in 2000 and 1.8% in 2021.

Steps taken to Promote Exports

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

✓ Foreign Trade Policy

It provides a **framework** for:

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

✓ Niryat Bandhu Scheme

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

✓ Certification of Origin

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

✓ RoDTEP Scheme

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

✓ Districts as Exports Hubs

It is aimed at

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

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What is the need to formulate a new Foreign Trade Policy?

First, a new policy is desired in consonance with the **altered nature of international trade** especially after the introduction of Global Value Chains (GVCs). India hasn't been able to truly leverage the potential of GVCs in comparison to China and other East Asian neighbors.

Under this, the multiple components of a typical export product are produced by different companies, often based in developed countries but offshoring production to locations in developing countries based on the competitiveness of that location. The iPhone, for example, has 178 components that are sourced from 200 different suppliers across 26 countries.

Further, the **onset of the pandemic followed by the Russia-Ukraine Crisis** has created opportunities for India to boost its exports in fellow countries. For instance, Pandemic made countries adopt a **China plus one policy** that provides an opportunity to boost Indian exports.

Second, a revamped policy is desired to **clarify the country's position and alignment** with flagship programmes like 'Local for Global' and PLI (Production linked incentive) schemes.

Third, India is in the process of concluding **critical Free Trade Agreements (FTAs) with the U.K, Australia and Canada** that warrants a revamped policy for leveraging the benefits of FTAs.

Fourth, the **surge in input and fuel costs are hitting the bottom lines of MSMEs**. There's a rise in prices of raw materials such as steel, and plastics along with a shortage of shipping containers and labour, making matters worse. MSMEs are finding it difficult to take full advantage of the increase in demand and hope the new FTP will ease their woes.

Fifth, **various export incentive schemes had to be phased out** after India faced challenges at the World Trade Organization (WTO) over the same. These need to be reintroduced in compliance with the WTO norms e.g., India discontinued the MEIS scheme, which was the incentivisation scheme and introduced duty neutralisation rates under the Remission of Duties and Taxes on

Exportable Products (RoDTEP). It will refund embedded duties and taxes not refunded earlier, such as fuel, stamp and electricity duty.

Sixth, some export-oriented businesses have been **adversely impacted by certain ad hoc, mistimed, and contradictory changes** to the Foreign Trade Policy, 2015.

The 2015 FTP incentivised exports by issuing duty-credit scrips directly in proportion to exports. However, the government limited the maximum export incentives to INR 20 million for goods and services in 2020 and 2021 respectively without reason. The changes for service incentives were retrospectively notified in September 2021 to be applied from April 2019. Similarly, earlier there was a 3% export incentive on agriculture implements like tractors, which has been reduced to 0.7%.

What factors impair the realization of benefits of the FTP?

First, due to **inadequate upgraded export infrastructure** such as ports, warehouses and supply chains, the average turnaround time for ships in India is about 3 days while the world average is 24 hours.

Second, the **tariffs imposed on multiple products are much higher than China** and other East Asian neighbors. India hasn't been able to extract a big chunk of GVCs in comparison to its peers.

Third, India's bound tariffs are much higher than tariffs that are actually applied. The bound tariff is **the maximum tariff level** for a given commodity. (e.g., the bound tariff on import of steel may be 10% but the actual rate applied by India may be 5%). India's trade negotiators tend to view this as an advantage because it gives 'policy space' to raise duties if required. But, it also **enhances uncertainty** because investors can no longer be sure whether duties on their inputs will suddenly be raised.

Fourth, many experts believe that India's decision to **opt out of the Regional Comprehensive Economic Partnership (RCEP)**, after several years of negotiation, was a missed opportunity. This would have given better integration with the East and SouthEast Asia region. Further, China has applied to join the Comprehensive and Progressive Agreement for Trans-Pacific Partnership, which is the new incarnation of the old Trans-Pacific Partnership.

What should the new Foreign Trade Policy contain?

It must revert to the earlier trend of gradually reducing customs duties to levels prevailing in East Asia.

It must keep access to imports open especially in important areas where technology is changing rapidly (like green energy).

It must give **clarity on the incentives and benefits available for e-commerce exports**. This is desired as the e-commerce sector is growing enormously.

India is dependent on imports for a range of products, so the new trade policy should boost domestic manufacturing and should also suggest ways to make it competitive.

One of the key highlights of the new FTP would be the 'Districts as Export Hubs' scheme. Under the scheme, the focus will be on 50 districts that have products with huge export potential. It will be a centrally sponsored scheme, with the majority contribution by the Centre and the remaining by the states. Additionally, every scheme should be compliant to WTO norms.

What steps should be taken to promote exports?

First, the Government must invest in **upgrading export infrastructure such as ports, warehouses, quality testing and certification centers** to stay ahead of technology-advanced countries. For instance, China has planned to spend US\$ 1.4 trillion on infrastructure between 2019 and 2023.

Second, India also needs to **adopt modern trade practices** that can be implemented through the digitisation of export processes. This will save both time and cost.

Third, the Government must **help MSMEs** planning to tap the export potential in existing tariff lines and provide policy support to raise the number of exporting MSMEs and increase MSME exports by 50% in 2022-23.

Fourth, the **Indo-Pacific Economic Framework (IPEF) agreement** offers a new opportunity. The trade pillar in the IPEF does not, as of now, deal with market access. India should work to push the IPEF towards a trade agreement.

Fifth, **Digital trade, e-commerce and digital payments** will play a major role in global integration in the years ahead. India has substantial strengths in this area, but there seems to be ambivalence about entering negotiations on it. India should shed this hesitancy and be actively involved in the development of global rules acceptable to all.

Sixth, a short-term FTP shall be a good move because the general elections are just two years away. The new government (new or the existing one) should be given the mandate to announce a new policy, as it may have a different focus area or agenda.

6 Point Agenda to Raise India's Trade Competitiveness

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

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

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Conclusion

The new FTP should work in a phased manner to address export constraints. It should review the regulatory and operational framework to reduce the transit costs and create a low-cost operating environment through developed logistics and utility infrastructure.

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

Source: [The Hindu BusinessLine](#), [Mint](#), [ORF](#), [Business Today](#), [Business Standard](#)

The Need for a Bail Law – Explained, pointwise

Introduction

The Supreme Court (SC) has underlined the 'pressing need' for a reform in the bail law in India. The Court has called on the Government to consider framing a special legislation on the lines of the law in the United Kingdom (The Bail Act, 1976). The SC Bench made the remarks on the consideration of 'abysmally low' conviction rate. It said such detentions reflect a colonial mindset and a 'police state'. The remarks of the SC has come at a time when the number of under-trials in the prisons, and the pendency of cases in the judiciary have increased consistently over the last few years.

What are the current provisions related to Bail in India?

Bail is a fundamental aspect of any criminal justice system and the practice of bail grew out of the need to **safeguard the fundamental right to liberty**. In India's legal system, the term offence has been categorised as bailable offences and non-bailable under the Code of Criminal Procedure (CrPC).

According to **Section 436**, **bail is a right in bailable offences**. The police or court, whoever has custody, is bound to release the accused following furnishing of a bail bond, with or without surety.

For a **non-bailable offence**, an **accused cannot claim bail as a right**. The **discretion lies with the courts**. In such cases, **Section 437** empowers the Magistrate to deal with pleas, except for offences 'punishable with death or imprisonment for life'.

A provision mandates the court to consider granting bail to an accused below 16 years, someone who is sick, or is a woman. The CrPC also lists provisions for the cancellation of bail.



What are the salient features of the Bail Act, 1976 (United Kingdom)?

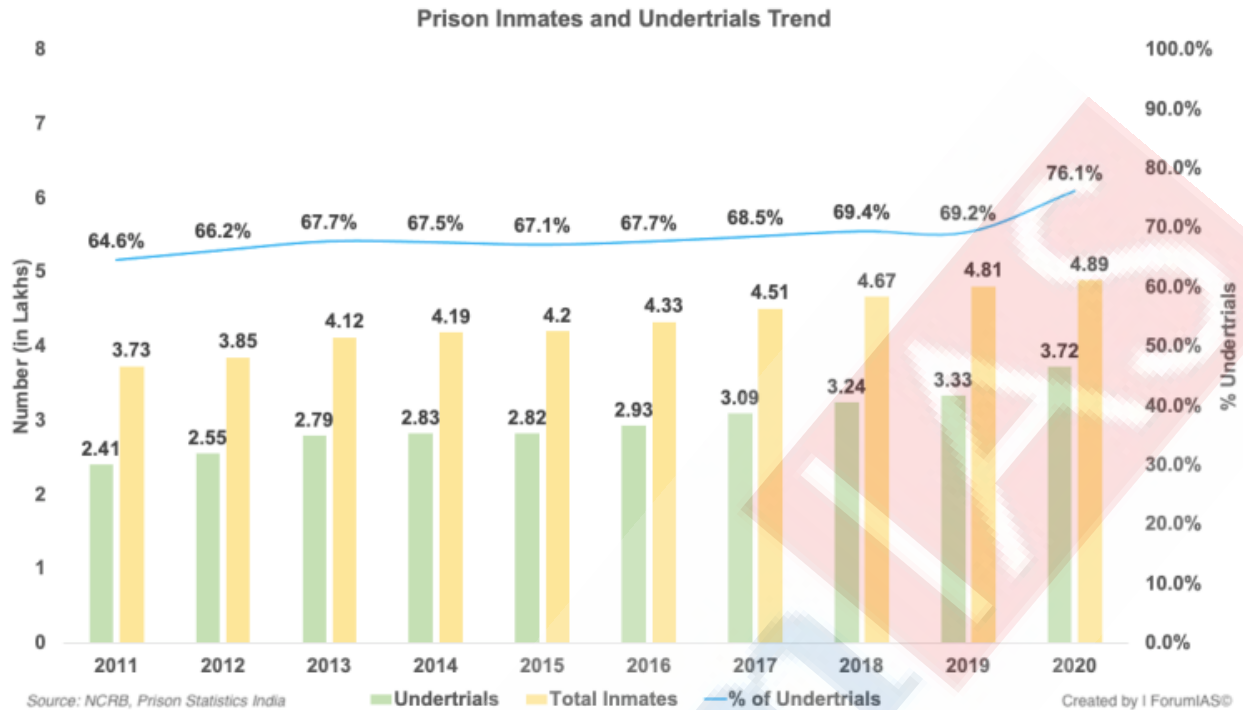
The Act prescribes the procedure for granting bail. The key aim of the legislation is 'reducing the size of the inmate population'. The Bail Act also has provisions for ensuring legal aid for defendants.

The Act recognises a '**general right to be granted bail**'. Section 4(1) raises the presumption of bail by stating that the law applies to a person who shall be granted bail except as provided in Schedule 1 to the Act. For rejecting bail, the prosecution must show that grounds exist for believing the **defendant on bail would not surrender to custody, would commit an offence while on bail, or would interfere with witnesses or otherwise obstruct the course of justice**.

What is the need for a Bail Law in India?

Multiple and Dispersed Provisions: At present, provisions related to arrest and interrogation, issue of warrants and summons, execution of bonds and sureties, powers of police and courts, are dispersed across CrPC and various binding SC guidelines. A law collating these in one place can check arbitrariness in the discretion of the Courts.

Huge Quantum of Under-trials: Under-trials constitute more than 70% of the prison inmates and the proportion has risen consistently over the last few years. This indicates a very liberal use of arrest provisions. In many cases, persons are wrongfully arrested. Further, most of them are poor and therefore unable to secure monetary bail.



Colonial Mindset: The magistrates often ignore the rule of 'bail, not jail' due to persistence of a colonial mindset. This mindset is emboldened by old colonial laws which were drafted to serve the purpose of the British. The Code of Criminal Procedure (CrPC) was first drafted in 1882 and continues to be in use with amendments from time to time.

Delays in Bail application: Sometimes, bail applications are kept pending for months. Unnecessary arrest coupled with no bail is a double whammy. Appeals by the convicted are pending for decades in some HCs.

Lack of Uniformity: The SC observed that magistrates do not necessarily exercise their discretionary powers uniformly which violates Article 14 and 15 of the Indian Constitution. Uniformity and certainty in the decisions of the court is required as these are the foundations of judicial dispensation. In most cases, the courts do not record reasons for rejecting the bail.

Supreme Court's Observations related to Provision of Bail



- **Joginder Kumar vs State of UP (1994):** The Supreme Court stated that 'arrest and detention in police lock-up of a person can cause incalculable harm to the reputation and self-esteem of a person'.
- **Armesh Kumar vs State of Bihar (2014):** The Supreme Court observed that 'arrest brings humiliation, curtails freedom and cast scars forever'.
- **Satender Kumar Antil vs CBI (2021):** The Supreme Court had issued guidelines on the aspect of grant of bail to accused who are not arrested during investigation on charge sheet being filed. The requisite conditions for the guidelines to apply: (a) Not arrested during investigation; (b) Cooperated throughout in the investigation.

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What Guidelines have been issued by the Supreme Court?

A two-judge Bench issued certain clarifications to an older judgment delivered in July 2021 on bail reform (**Satender Kumar Antil vs CBI**). The Court observed that arrest is a 'draconian' measure that should be used 'sparingly'. It lamented that bail continues to 'be the rule and jail an exception'. The clarifications are a reiteration of several crucial principles of criminal procedure.

First, the Government should consider framing a **separate law** that deals with the grant of bail. It will help in reducing arbitrariness in grant of bail.

Second, it emphasized that even for cognisable offences, **arrest is not mandatory and must be 'necessitated'**. Such necessity is drawn: **(a)** To prevent the committing of any further offense; **(b)** For a proper investigation; **(c)** To prevent the accused from either disappearing or tampering with the evidence; **(d)** To prevent any inducement, threat, or promise to any person, so as to dissuade that person from disclosing said facts either to the court or to the police officer; **(e)** When the presence of the accused is required after arrest for production before the Court and the same cannot be assured.

Third, there need **not be any insistence of a bail application while considering the application under Section 88, 170, 204 and 209 of the Code**. These sections relate to various stages of a trial where a magistrate can decide on release of an accused. These range from power of the magistrate to take bond for appearance (Section 88) to power to issue summons (Section 204). The Supreme Court held that in these circumstances, magistrates must routinely consider granting bail, without insisting on a separate bail application.

Fourth, bail applications have to be **disposed of within 2 weeks** except when provisions mandate otherwise. On anticipatory bail, it said a plea has to be decided within 6 weeks.

Fifth, Investigating agencies and officers have to **comply with Sections 41 and 41A**. It ruled that non-compliance with Sections 41 and 41A at the time of arrest will entitle the accused to bail. Section 41 deals with the arrest in a cognisable offence where punishment is imprisonment for a term which may be less than 7 years. Section 41A relates to the procedure of the notice of appearance before a policeman in cases where the arrest is not required. Notably, a police officer is **required to record reasons for arrest** or not to arrest in writing as per the rule.

Sixth, the SC directed State Governments and Union Territories to facilitate standing orders for the procedure to be followed under Sections 41 and 41A to avoid unwarranted arrests.

Seventh, the SC directed the High Courts (HCs) to **identify under-trials who are unable to comply with bail conditions** and take action to facilitate their release. After doing so, appropriate action will have to be taken in the light of **Section 440 of the Code**, facilitating their release. Under Section 440, the amount of bond shall not be excessive, and HCs and sessions courts may reduce the amount prescribed by the magistrate or a police officer. An exercise will have to be done similarly to **comply with the mandate of Section 436A** of the Code. Under this, a person imprisoned during investigation or trial shall be **released on bail on completion of half of the jail term** prescribed for that offence.

What more steps can be taken?

First, Disciplinary action against errant officers – in Police, Judiciary or Executive – may produce salutary changes.

Second, the Union and State Governments must comply with the directions issued by the Supreme Court with respect to the constitution of special courts.

Third, the High Courts in consultation with the State governments must undertake an exercise on the need for special courts. The vacancies in the position of Presiding Officers of the special courts must be filled up expeditiously.

Conclusion

A new bail law would take care of not only the unwarranted arrests, but also the clogging of bail applications before various Courts. It will help in bringing more clarity to magistrates thereby minimizing the scope of arbitrariness and improving administration of justice. It can also help in reducing the proportion of under-trial prisoners, and help preserve their fundamental rights

Syllabus: GSII, Important Aspects of Governance and Accountability, Issues Arising out of Design and Implementation of Policies.

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

Issues with the SEZs and Proposed Changes under the DESH Bill – Explained, pointwise

Introduction

The Union Government is likely to introduce the Development of Enterprise and Service Hubs (DESH) Bill in the ongoing Parliament session. Through the Bill, the Government proposes to rebrand India's 268 Special Economic Zones (SEZs) as 'development hubs' under the DESH bill. The Bill aims to make the SEZ Act compliant with World Trade Organization (WTO) norms and boost manufacturing and job creation. It aims to revamp the SEZ units in such a way that it becomes a win-win situation for manufacturers as well as the consumers.

Special Economic Zones (SEZs)

- Special Economic Zones (SEZs) are enclaves within the territory of a country, in which business, trade and tax laws are different from the rest of the country. In India, the SEZs are governed by the SEZ Act (2005).
- **Objectives**
 - Boost exports of goods and services.
 - Create additional economic capacity and generate employment.
 - Attract domestic and foreign investments.
 - Create a conducive administrative and business environment.
 - Develop infrastructure facilities.
- **Incentives/Facilities**
 - Simplified procedures for development, operation, and maintenance of the SEZ.
 - Duty free imports on domestic procurement of goods and services.
 - Tax incentive for units in the SEZ, both Union and State taxes.
 - Single window clearance for State and Central approvals.
- As long as businesses earn more foreign exchange than spend over each 5-year stretch, units can freely import what they need and also enjoy a clutch of tax exemptions, such as zero GST on domestic supplies.
- As these operate like offshore zones, any sales of their products and services in the Indian market face regular import tariffs.

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What are the issues associated with the SEZs?

First, Indian **SEZs are much smaller in size and performance compared to Chinese SEZs**. Shenzhen's SEZ area (49,000 hectares) (a major industrial hub in China) exceeds the combined area of Indian SEZs (47,000 hectares). Small size prevents SEZs from offering high-quality common facilities which is crucial to realize cost economies/economies of scale. As a result, SEZ attracted more units for the tax concession than for any other competitive consideration.

Second, many large-export oriented units (EOUs) were converted into SEZs. However, when tax exemptions ended, investments dried up. Due to this, today, less than half the land approved for SEZ purposes is used leading to **gross underutilization of resources**.

Third, under the SEZ Act, sale of goods manufactured in SEZs in domestic market attracts custom duties. However, the custom duties are levied on the entire finished good and not just on the imported raw materials (imported duty free). This acts as a big deterrent for current SEZ units.

Fourth, In 2019, the World Trade Organization (WTO) held that subsidies provided to SEZ units in India violated the rules of fair trade.

Fifth, many States did not sync State level laws with the Central SEZ Act, which created barriers in the single window clearance regime.

Sixth, there are multiple models for economic zones apart from SEZ like NIMZ, Coastal Economic Zones etc., which creates problems in integration of various models.

Seventh, the tax provisions related to the SEZs was changed multiple times e.g., Minimum Alternate Tax (MAT) was introduced and exemption on Dividend Distribution Tax was withdrawn. Another issue was introduction of sunset date for direct tax benefits. These frequent tax changes negatively impacted investor sentiment leading to gradual drying up of investments. In 2020, the capacity utilization of SEZs had fallen to 50%. East Asian economies like Philippines, Vietnam, Thailand etc. tweaked their policies that attracted investments e.g., SEZs in Indonesia and Thailand enjoy Tax exemptions for 12 and 13 years respectively.

SEZ Fact Sheet

- Number of Approved SEZs: 425
- Number of Notified SEZs: 376
- Operational SEZs: 268
- Land for SEZs: 47,013 hectares
- Investments: INR 6.5 Lakh Crore
- Employment: 27 Lakhs
- Exports in 2021-22: US\$ 133.0 billion (INR 9.9 Lakh Crore)
- Exports in 2020-21: US\$ 102.3 billion (INR 7.6 Lakh Crore)

Source: sezindia.nic.in, as of June 2022

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Investments of ~ INR 6.5 Lakh Crore created employment for ~27 Lakh persons. This translates to investment of ~ INR 24 Lakhs to create one job.

How does the DESH Bill aim to improve the loopholes of the current SEZ framework?

First, the developers of the zones, (to be called Development Hubs) will **get infrastructure status**, which will allow them to get easier credit at competitive rates.

Second, the Bill **removes the restriction that exports should be more than imports over 5 years**. Now units can import any amount. They can also do invoicing in rupee to facilitate domestic transactions.

Third, the DESH framework gives **more concessions to SEZ units selling in the domestic market**. Units in the development hubs will be allowed to sell goods in the domestic market with **customs duty to be paid only on the imported raw materials and not on the entire finished goods**. Under this, if raw materials are imported at zero duty from a free trade agreement partner country, no duty will have to be paid when the final product is sold in the domestic market.

Fourth, the Bill has reportedly dropped the net forex earnings criterion for SEZ units. It will be replaced with a set of growth criteria that could include investment and employment ramp-ups as qualifiers for benefits.

Fifth, there might be an offer of a special corporate tax rate of 15% instead of 22% to new manufacturers that start operations by March 2024.

Sixth, the revamped SEZs will be able to **avail auto-renewal of licenses** under the Development of Enterprise and Service Hubs (DESH) legislation, subject to conditions.

The Bill also proposes **a framework to include the existing industrial parks** in the DESH framework—including those of other government departments like textile parks, food parks, pharma and power.

What more steps can be taken to ensure success of the proposed Hubs?

Attracting big players: Sectoral hubs for textiles, electronics, or pharma must invite a large global anchor firm to kick-start operations. Their use of Indian ancillary and component supplier firms will benefit the entire sector as seen by the role played by Suzuki in India's automobile sector in the early 1980s. Anchor firms of large scale will help semiconductors, electronics and solar cells sectors in increasing manufacturing and export output.

Agility: Speedy **factory-to-ship movement** through dedicated freight corridors (DFCs) from all hubs is a must. Each hub should figure out the *Gati Shakti* programme priorities.

Aim bigger: DESH should focus not just on SEZs but also on industrial parks for various sectors, manufacturing under the bond of Customs; and EOUs. These schemes offer different concessions for similar operations, creating competitive distortions. Good firms do well via core operations like R&D and manufacturing, not scheme hopping.

Checking Leakages: A GSTN-like number system can be used to monitor movement of goods. Stringent provisions should be made for small-volume high-value items like gold and diamonds to check misuse.

Exclude IT Sector: Many IT/ITES firms relocated into SEZs just to get tax exemptions. Their contribution to exports was minimal. So the Government should consider excluding the IT sector from DESH.

Transparency in Land Acquisition: There will be changes in the land-use as DESH changes focus from exports to broad economic activity. Under the SEZ framework, many developers bought land with the help of State governments, by using the 'public purpose' clause to acquire land. Few giant pieces of land acquired in the name of SEZs could not take off. Government should return such non-operational SEZ land to its rightful owners.

Conclusion

If governed effectively, Enterprise and Service Hubs can function as growth engines for development of the Indian economy. These hubs can address the challenges faced by the economy, especially in the aftermath of COVID-19. The proposed DESH legislation is a step in the right direction that will also play a vital role in making India a US\$ 5 trillion economy. The Government must learn the lessons from not-so-successful SEZs and ensure that the proposed hubs make India the center of global manufacturing value chains.

Syllabus: India Economy and issues related to growth, Changes in Industrial Policy and their effects on industrial growth.

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

Quantum Computing: Uses, Challenges and India's Initiatives – Explained, pointwise

Introduction

The 21st century will be an era of cutting edge technology that will enable humans to achieve the hitherto impossible tasks. Amongst these game changing technologies, a critical role would be played by quantum computing and technology. Quantum computing is an emerging field of physics and engineering, which relies on the principles of quantum physics (the physics of subatomic particles). It promises improvements to a vast range of everyday technology. It will enable the nations to strengthen their economic, social and military might owing to the multifarious applications of quantum computing in areas like health, education, defense, manufacturing etc. India is on the right path to leverage this technology but realizing its true potential warrants some more focused efforts from the Government as well as the private sector.

What is Quantum Computing?

It is a type of computation that harnesses the collective properties of quantum states, such as superposition, interference, and entanglement, to perform calculations. It harnesses the phenomena of quantum mechanics to deliver a huge leap forward in computation to solve complex problems.

Quantum mechanics is a science that describes the unique behavior of matter and energy at the atomic and subatomic level.

Quantum Computing works on:

'Superposition' meaning they can exist in multiple states (both 0,1 at the same time) at the same time. It is unlike classical computers where information is processed in 'bits' or 1s and 0s, following classical physics.









'Entanglement' where two or more particles are inextricably linked and mirror each other exactly, even when separated by great physical distance.

How are Quantum Computers better than Conventional Supercomputers?

Conventional computers (in common use like homes/offices) and Supercomputers process information with **bits** (ones and zeroes). Quantum computers, on the other hand, use quantum bits or **qubits** that can process the ones and zeroes simultaneously due to a property known as superposition. This allows them to process a lot more information than conventional computers

Conventional Supercomputers combine processing power of thousands of computers. However, supercomputers aren't very good at solving certain types of problems e.g., Supercomputers don't have the working memory to hold the myriad combinations of real world problems. Supercomputers have to analyze each combination one after another, which can take a long time.

On the other hand, the computing power of quantum computers increases exponentially (by a factor of 2) with increase in qubits e.g., In October 2019, Google said it had performed a calculation on a quantum processor in 300 seconds that would have been **practically impossible** to achieve with the algorithms available at the time.

Quantum Computing	Vs. Classical Computing
 <p>Calculates with qubits, which can represent 0 and 1 at the same time</p>	 <p>Calculates with transistors, which can represent either 0 or 1</p>
 <p>Power increases exponentially in proportion to the number of qubits</p>	 <p>Power increases in a 1:1 relationship with the number of transistors</p>
 <p>Quantum computers have high error rates and need to be kept ultracold</p>	 <p>Classical computers have low error rates and can operate at room temp</p>
 <p>Well suited for tasks like optimization problems, data analysis, and simulations</p>	 <p>Most everyday processing is best handled by classical computers</p>

Source: CBInsights

What are the various applications of Quantum Computing?

Artificial Intelligence (AI) and Machine Learning (ML): Quantum computers' abilities to parse through massive data sets, simulate complex models, and quickly solve optimization problems have drawn attention for applications within artificial intelligence. Quantum computing has the potential to enhance the pace of AI/ML.

Computational Chemistry: There are many problems in finding the right catalyst or process to develop a new material, or an existing material more efficiently. A quantum computer can be used to simulate the quantum mechanical processes that occur. Potential applications include: **(a)** Finding new materials that can achieve a room temperature superconductor; **(b)** Finding a catalyst that can improve the efficiency of carbon sequestration; **(c)** Developing a new battery chemistry that can significantly improve the performance over today's lithium-ion batteries.

These applications can have uses in agriculture, manufacturing and industrial design sectors.

Financial Portfolio Optimisation: Finding the optimum mix for a basketful of investments based upon projected returns, risk assessments, and other factors is a daily task within the finance industry. By utilizing quantum technology to perform these calculations, improvements can be achieved in both the quality of the solutions as well as the time to develop them.

Logistics and Scheduling: Many common optimisations used in industry can be classified under logistics and scheduling. Quantum computing can make logistics more efficient. For example: **(a)** Airlines can figure out how to stage their airplanes for the best service at the lowest cost; **(b)** Factory managers can minimize cost, time and maximize output.

Cyber Security: Cyber security is becoming a larger issue every day as threats around the world are increasing their capabilities and we become more vulnerable as we increase our dependence upon the digital system. Various techniques to combat cyber security threats can be developed using some of the quantum machine learning approaches to recognize the threats earlier and mitigate the damage that they may do.

Why should India focus on Quantum Computing?

Industrial revolution 4.0: Quantum computing is an integral part of Industrial revolution 4.0. Success in it will help in Strategic initiatives aimed at leveraging other Industrial revolution 4.0 technologies like the Internet-of-Things, Machine Learning, robotics, and artificial intelligence across sectors and lay the foundation of the Knowledge economy.

Growing Demand: According to the The Quantum Revolution in India, The quantum ecosystem in India is growing at an accelerated pace with support from government agencies and participation from the academia, service providers, and the start-up community.

Economic Benefits: The adoption of quantum technologies across industries could potentially add US\$ 280–310 billion value to the Indian economy by 2030. Manufacturing, high-tech, banking, and defence sectors will remain at the forefront of quantum-led innovation, according to the Nasscom-Avasant report.

What steps have been taken to promote Quantum Computing in India?

The National Mission on Quantum Technologies and Applications (NM-QTA): It is a government of India programme that aims to create a workforce of over 25,000 in India over the next 5-7 years. It has a total budget outlay of ₹8,000 crore for a period of five years.

The next generation transformative technologies that will receive a push under this mission include quantum computers and computing, quantum communication, quantum key distribution, encryption, quantum devices, quantum sensing and so on.

The areas of focus for the Mission will be in fundamental science, translation, technology development, human and infrastructural resource generation, innovation and start-ups to address issues concerning national priorities.

QuEST: The Department of Science and Technology launched the Quantum-Enabled Science and Technology (QuEST) initiative to invest INR 80 crores to lay out infrastructure and to facilitate research in the field.

‘Quantum Computer Simulator (QSim) Toolkit’: It provides the first quantum development environment to academicians, industry professionals, students, and the scientific community in India.

Other Efforts: Scientists from two Ahmedabad-based laboratories of the Department of Space jointly demonstrated quantum entanglement with real-time [Quantum Key Distribution](#) (QKD) between two buildings separated by a distance of 300 metres.

What are the associated challenges?

First, quantum computers are highly prone to interference that leads to errors in quantum algorithms running on it. Thus it can give erroneous results. Scientists are working to improve accuracy e.g., Google has announced plans to have fault-tolerant quantum-computing hardware by 2030

Second, most quantum computers cannot function without being super-cooled to a little above absolute zero since heat generates error or noise in qubits. Expanding quantum computing will increase ecological footprint.

Third, finding the right talent is another big hurdle as there is an acute shortage of candidates with doctorates in quantum physics, engineering, and statistics.

Fourth, a comprehensive multi-stakeholder network is amiss. It is not clear whether India will focus on near-term quantum applications or long-term applications or both. Translating research into real-world applications should be at the core of India’s quantum efforts.

Fifth, metrics to assess the outcomes of India’s quantum efforts are not clearly defined. Merely achieving quantum supremacy will not necessarily safeguard India’s national interests.

Sixth, India lacks the capability to domestically manufacture most of the components/hardware used in quantum computing. It is another strategic sector where India is import-dependent.

What should be the approach going ahead?

First, India should cooperate with the private sector and friendly nations who are working to address the critical bottlenecks of quantum computing e.g., Tech Mahindra’s research and development arm, Makers Lab, announced it has set up a quantum centre of excellence called QNxT in Finland to leverage the country’s expertise in quantum computing.

Second, the Indian government had announced NM-QTA in 2020 but it is yet to get Cabinet clearance. This should be quickly approved and implemented.

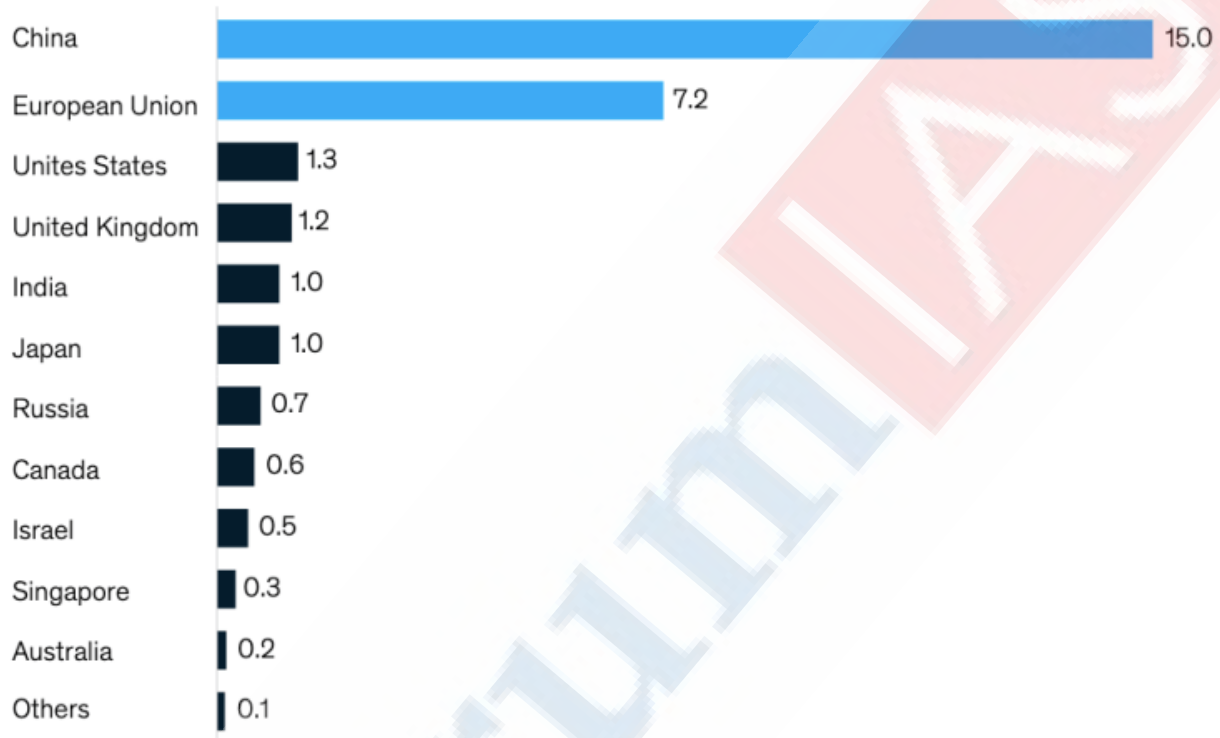
Third, the Government should also make sure that educational programs surrounding quantum computing and technology are provided with adequate support and completed on time e.g., the Defence Institute of Advanced Technology (DIAT) in Pune, launched an MTech in quantum computing in 2020. IBM has partnered with top-tier academic institutions in India to provide access to IBM quantum systems, while Microsoft Garage India has joined hands with IIT Roorkee to conduct lectures on quantum computing for an entire semester.

Fourth, the funding support towards the technology also needs to be augmented. According to McKinsey, China and the European Union have taken a lead in public funding for quantum

computing with investments worth US\$ 15 billion and US\$ 7.2 billion, respectively. The US, the UK and India follow but with much lesser spending.

China and the European Union lead significantly on public funding for quantum computing.

Announced planned governmental funding,¹\$ billions



Source: McKinsey

Conclusion

Despite these hurdles, quantum computing is set to grow. It is likely to see a hybrid computing-operating model that combines conventional computing with emerging quantum computing before the latter comes of age. Change may come as early as 2030, as several companies predict they will launch usable quantum systems by that time. India must step-up the efforts to develop capabilities in quantum computing and technologies. China has already gained a significant lead in this strategic field, India must catch-up before the gap with China's capabilities becomes too wide to plug.

Syllabus: GS III, Science and Technology – Developments and their Applications, Developing New Technology, Awareness in the Fields of Computers.

Source: [Mint](#), [ORF](#), [PIB](#)

[Kurukshetra July Summary] Jal Shakti Abhiyan and Traditional Knowledge in Water Conservation – Explained, pointwise

Introduction

Creating water secure communities is at the heart of Government of India's efforts in the water sector. India is home to 18% of the world's population but has just 4% of the freshwater resources of the world. This availability is also variable and dependent on the rains. Climate change, which is manifesting itself through changes in the water cycle, also threatens our water security. To address this problem, the Government of India, launched the *Jal Shakti Abhiyan* (JSA) in 2019. Revamped campaigns were launched in 2021 and 2022 as well. Apart from this, India also possesses a huge repository of traditional knowledge in water conservation that can be leveraged for improving the water situation in the country.

Read More: [Water Crisis in India – Explained, pointwise](#)

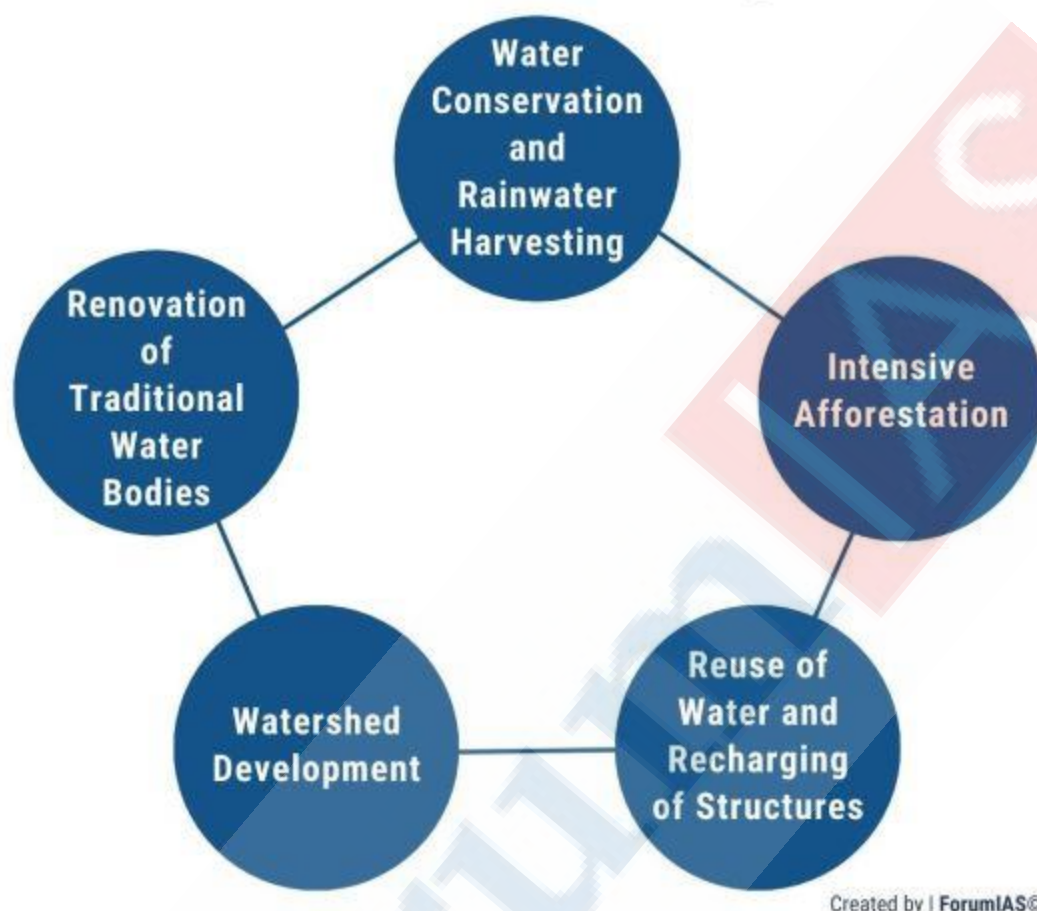
About the Jal Shakti Abhiyan, 2019

This was a time-bound, mission mode water conservation campaign, implemented in the July – November 2019 period in **1,592 blocks of 256 water-stressed districts** of the country.

These blocks fell under the critical or over-exploited groundwater category, where groundwater was being extracted faster than it could be replenished. It was a collaborative effort of various ministries of the Government of India and state governments, coordinated by the Department of Drinking Water and Sanitation, Ministry of *Jal Shakti*.

It aimed at making water conservation a *jan andolan* through extensive communication and involvement of communities.

Focus Areas of Jal Shakti Abhiyan, 2019



Besides, the special interventions included development of Block and District Water Conservation Plans, Krishi Vigyan Kendra Melas, Urban Waste Water Reuse and 3D Contour Mapping of all villages.

What are the achievements of Jal Shakti Abhiyan, 2019?

The combined efforts of all stakeholders achieved: **(a)** Creation of 2.73 lakh water conservation and rainwater harvesting structures; **(b)** Renovation of 45000 water bodies/ tanks; **(c)** Creation of 1.43 lakh reuse and recharge structures; **(d)** 1.59 lakh watershed development related works; **(e)** 12.36 crore trees planted and preparation of 1372 block water conservation plans.

Beyond these numbers, the campaign created a strong environment for bringing together all stakeholders working on water recharge and management.

Many States did more than that was originally planned. Some states extended the campaign to all their districts, going beyond the water-stressed districts that were selected initially.

About the Jal Shakti Abhiyan, 2021

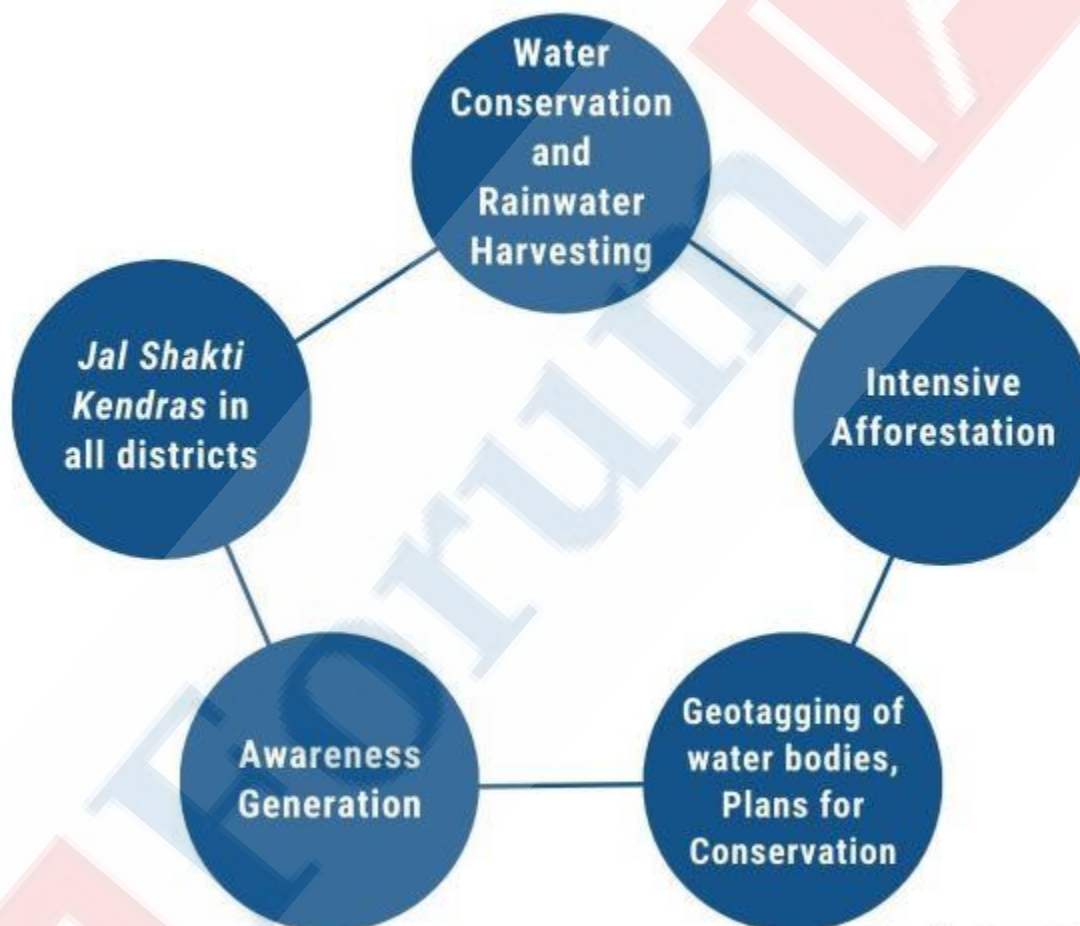
‘**Jal Shakti Abhiyan: Catch The Rain Campaign**’ was taken up in all 734 districts (7213 rural blocks and all urban areas) of the country during the pre-monsoon and monsoon period, i.e. from March 2021 to 30 November 2021.

The aim was to ‘nudge the States and stakeholders to create and maintain appropriate Rain Water Conservation Structures, suitable to the soil strata and climatic conditions of the area with people’s participation. The structures were to be created before the onset of monsoons so that they are ready to **catch the rain, where it falls, when it falls**’.

This unique campaign converged funds of all water conservation related schemes (MGNREGS, AMRUT, CAMPA Funds, etc) of central and state governments, funds mobilized locally and from corporate sectors.

The campaign implemented by National Water Mission (NWM), had the **following five focused interventions**:

Focus Areas of Jal Shakti Abhiyan, 2021



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National Water Mission, with the help of NIC, developed a portal (<http://jsactr.mowrgov.in>) for monitoring the progress of the campaign.

What are the achievements of Jal Shakti Abhiyan, 2021?

The degree of progress since the launch on 22 March 2021 till 28 March 2022, both urban and rural areas put together: **(a)** 10,69,649 water conservation and rainwater harvesting structures have been completed while 5,58,028 works are on-going thus totalling to 16,27,677 water harvesting structures; **(b)** 1,79,950 traditional water bodies have been renovated while 1,17,716

works are on-going; **(c)** 8,32,596 reuse and recharge structures were created/ getting made; **(d)** 19,18,913 watershed development activities have been undertaken/going-on; **(e)** 36,76,60,580 afforestation activities carried out under the campaign; **(f)** 374 *Jai Shakti Kendras* were set up in various States/UTs; **(g)** 15.32 lakh water bodies have been enumerated with its details like its latitude and longitude, ownership, state of health, photos, etc under the campaign.

Awareness Generation: *Nehru Yuva Kendra Sangathan* (NYKS) and its youth clubs have engaged over 2.90 crore people in the campaign. They undertook various activities like rallies, Jal Choupals, quizzes, debates, slogan writing competitions, wall writings etc..

IEC Materials: The mission got information, education and communication (IEC) materials developed in regional languages on water harvesting and conservation by professional agencies. It was then uploaded on the official website of NWM for the use of stakeholders.

About Jal Shakti Abhiyan 2022: Catch the Rain

It is being taken up in **all districts (rural as well as urban areas) of the country** with the main theme Catch the Rain, where it falls, when it falls. The campaign is being implemented from 29 March 2022 to 30 November, 2022 – the pre-monsoon and monsoon period in the country.

Under this campaign activities are also undertaken under the following new interventions along with previous activities of the 2021 campaign. This includes: **(a)** Spring Shed Development and Management; **(b)** Wetland Development and Management; **(c)** Catchment area protection and development.

Amrit Sarovars: 75 water bodies will be created/ rejuvenated in every district under the campaign as India celebrates 75 years of independence.

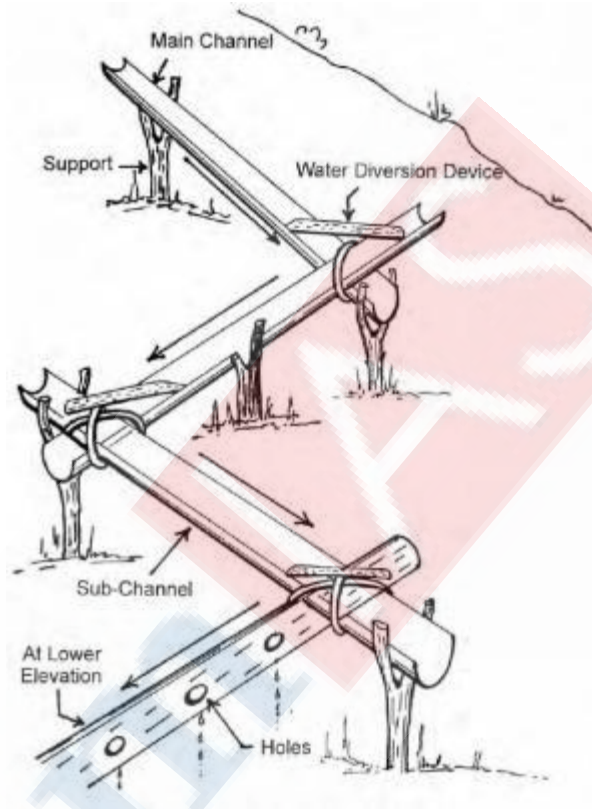
Visit of Central Team to the Districts: It is proposed to send a Central Team consisting of one Central Nodal Officer (CNO) and one Technical Officer for one field visit to the districts during the campaign. They will interact with district authorities on Jal Shakti Abhiyan.

Read More: [\[Kurukshetra July Summary\] Equitable Water Resources Management – Explained, pointwise](#)

What are some of the traditional water conservation methods in India?

North East India

Bamboo Pipes: In this simple method, water is transported through bamboo pipes for irrigation. Bamboo pipes are used to divert water of springs on the hilltops to the lower regions by gravity.



Source: Permaculture Research Institute

Apatani: It is a wet rice cultivation cum fish farming system practiced in elevated hilly regions and gentle sloping valleys of Northeast India. Apatani can tap the water of small streams and springs in these high rainfall hilly regions through their temporary walls. These walls act as barriers and can divert the flow of water towards terraced and valley lands.



Source: C.P.R. Environmental Education Centre, Chennai; Ministry of Environment

Indo Gangetic Plains

Ahar-Pyne: It is a traditional floodwater harvesting system prevalent in Bihar. Ideal terrain for Ahar-pyne should have an evident slope, sandy soil, low groundwater level and flood during monsoon.



Source: C.P.R. Environmental Education Centre, Chennai; Ministry of Environment

Rajasthan, Gujarat and the Western Deserts

Kunds or Kundis: In western arid areas of Rajasthan, *kunds* are water-harvesting structures. They have a saucer-shaped catchment area that gently slopes towards the centre where the well is situated. A wire mesh across water-inlets prevents debris from falling into the well pit. The sides of the well-pit are generally covered with lime and ash.



Source: C.P.R. Environmental Education Centre, Chennai; Ministry of Environment

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Nadis: It is the local name of a village pond used for storing rainwater from the adjoining natural catchment areas. These were very common in Jodhpur.



Source: C.P.R. Environmental Education Centre, Chennai; Ministry of Environment

South India

Eri and Kulams: Tamil Nadu has no perennial river that can cover the whole state. This inspired people to use monsoon rains for irrigation and filling the ponds for consumption and other purposes. It has been mentioned that approximately one-third of the irrigated area of Tamil Nadu is watered by the *Eris* (tanks). *Eri* is the name given to a broad irrigation tank while *Kulam* is a small pond located close to a temple. *Eris* are used for cultivation, and *Kulam* for drinking water purpose.



Source: Indiawaterportal.org

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Deccan and Maharashtra

Kohli Tank: They are called so because of the name of a group of cultivators who built these tanks three centuries back. A network of channels to practically carry water to every house was in existence in the Bhandara district of Maharashtra. The tanks were built on the slopes of the Gaikhuri range

How can the revival/protection of water bodies be ensured?

Focus should be on sustainability. Therefore emphasis should be on long-term goals, operation and maintenance, adequate budget, and ownership and responsibility to the people.

Economic, environmental and social impact of the project should be studied in detail beforehand and reviewed in between for the course correction. Local communities need to be involved in all these planning and reviews.

Encouraging local people to collaborate with other stakeholders to successfully utilize resources should be done to ensure the protection and conservation of water bodies.

Conclusion

The focused approach of the Government through *Jal Shakti Abhiyan* is yielding positive outcomes. However, given the magnitude of water crisis and the possible exacerbation due to climate change, a relentless effort is required. Addressing the water crisis will require mass participation at a pan India level. Thus, the Government must redouble its endeavours towards water conservation and awareness generation.

Syllabus: GS III, Conservation

Source: Kurukshetra July 2022, [CPR Environment Education Center](#)