

## 7 PM COMPILATION

**3<sup>rd</sup> and 4<sup>th</sup> Week May, 2024**

### Features of 7 PM compilation

- ❖ Comprehensive coverage of a given current topic
- ❖ Provide you all the information you need to frame a good answer
- ❖ Critical analysis, comparative analysis, legal/constitutional provisions, current issues and challenges and best practices around the world
- ❖ Written in lucid language and point format
- ❖ Wide use of charts, diagrams and info graphics
- ❖ Best-in class coverage, critically acclaimed by aspirants
- ❖ Out of the box thinking for value edition
- ❖ Best cost-benefit ratio according to successful aspirants

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## Solid Waste Management in India- Explained Pointwise

The **Solid Waste Management in India** remains an Achilles heel for India. The Supreme Court of India **recently criticised the solid waste management in New Delhi**. There are more than **3,800 tonnes of untreated solid waste** in Delhi alone. This waste reaches landfills and threatens public health and the environment. Proper steps need to be undertaken for safe disposal and treatment of solid waste in India.

### What is the status of Solid Waste generation in India?

**Solid Waste-** Solid waste refers to any **unwanted or discarded material** that is not in a liquid or gaseous state. The solid waste includes a **wide range of materials** generated from various sources such as **households, industries, commercial establishments, construction sites, and institutions**.

**Examples of Solid Waste-** Common examples of solid waste include **paper, plastics, glass, metal, textiles, food scraps, yard waste, and electronic waste**.

### Status of Solid Waste Generation in India

According to CPCB report, only ~50% of total solid waste generated in the country is treated. The processing of solid waste in India has improved significantly, from **19% in 2015-16** to **~50% in 2020-21**. In the corresponding period, the proportion of solid waste landfilled has **fallen from 54% to 18.4%**.

<b>The total quantity of Solid waste generated in India per Day</b>	~ <b>1,60,000</b> Metric Tonnes Per Day (TPD)
<b>Waste Collection per day</b>	~ <b>1,53,000</b> Metric Tonnes Per Day (TPD) Waste Collection efficiency is ~ <b>96%</b>
<b>Waste treatment per day</b>	~ <b>80,000</b> Metric Tonnes Per Day (TPD) Only <b>50%</b> of the total waste is treated
<b>Waste Landfilled per day</b>	~ <b>30,000</b> Metric Tonnes Per Day (TPD) <b>18.4%</b> of the total waste generated ends in landfill
<b>Unaccounted Waste Generation</b>	~ <b>50,000</b> Metric Tonnes Per Day (TPD) <b>31.2%</b> of the total waste generated remains unaccounted.

About 50-55% of the waste generated in Indian cities is biodegradable wet waste, about 35% is non-biodegradable wet waste and 10% is an inert component.

### What are the Challenges with Solid Waste Management in India?

**1. Rising Waste Generation-** Rapid economic growth **has raised the consumption levels in the economy**, which has in turn increased the waste generation. Further, **the expansion of digital economy** is leading to a **multifold increase in e-waste generation**. **For ex-** A Planning Commission Report had estimated that **India will generate 165 million tonnes by 2030**.

**2. Lack of proper Waste Management-** India lacks proper waste management and disposal techniques.

**(a) Poor Processing-** Only **50% of the waste** produced is actually processed in India. **~30% of waste is not accounted** and **~20% ends up in landfills**, reflecting poor waste disposal method.

**(b) Incorrect and Inadequate Segregation Techniques-** There is poor segregation of waste at source. Hazardous waste and e-waste is not sealed and labelled leading to improper disposal. **For ex- Valuable materials like aluminium and plastics end up in landfills instead of being recycled**.

**(c) Reuse/recycling of waste-** Reuse and recycling of waste is predominantly an informal economy, lacking access to advanced technology.

**3. Littering and Illegal Dumping-** Due to poor disposal methods, almost half of waste is placed in uncontrolled dumps and landfills. These landfills are the source of generation of methane gases, leachates, and landfill fires, adversely affecting the surrounding environment

**4. Lack of land resources-** The urban areas in India lack adequate land resources to set up waste processing plants. For ex- Waste processing plants in Delhi need large land parcels, of about 30-40 acres each for treatment.

**5. Lack of public awareness-** Lack of public awareness regarding proper waste management practices, contributes to littering and improper disposal habits.

**6. Lack of regular waste collection services-** The lack of regular waste collection services adds up to the building up of waste as well as littering. Illegal dumping in open areas and water bodies increases the pressure on the municipal body, warranting more resources for clean-up.

### What are the harmful impacts of poor Waste Management?

**1. Health Issues-** The improper waste management leads to several health issues such as  
 (a) Open burning of waste leads to formation of harmful particles which can cause lung diseases  
 (b) Poor collection leads to garbage dumps which act as breeding ground for rats and mosquitoes etc. Mosquitoes act as carriers of diseases like malaria and dengue.

**2. Environmental Issues-** Improper waste management techniques lead to various environmental problems which are mentioned below-

(a) Unscientific dumping in landfill leads to formation of harmful chemicals which permeate into soil and groundwater. This renders groundwater unfit for drinking and cause multiple diseases

(b) Waste in landfills leads to formation of harmful gases leading to air pollution. For ex- Around 90-98% of landfill gases are made up of methane and carbon dioxide, remaining 2-10% includes nitrogen, oxygen, ammonia, sulphides, hydrogen and various other gases.

(c) A lot of land-based waste eventually ends up in sea leading to marine pollution.

**3. Economic Impacts-** Improper waste management usually has grave economic impacts

(a) Expansion of landfills occupy useful land, leading to wasteful utilization of an economic resource

(b) Poor waste management leads to general filth in cities, which impacts tourism potential.

(c) Poor waste collection leads to clogging of drains, which has become a factor in urban flooding, leading to economic losses.

### What have been the Government interventions for Solid Waste Management?

<p><b>Policy and Legal Framework for Waste Management in India</b></p>	<p>The Government of India (GOI) has formulated various Rules and Regulations. These rules are updated periodically and have been formulated under the <b>Environment Protection Act, 1986</b>. These include</p> <ol style="list-style-type: none"> <li>Solid Waste Management Rules</li> <li>e-Waste Management Rules</li> <li>Plastic Waste Management Rules</li> </ol>
<p><b>Extended Producer Responsibility (EPR) Mechanism</b></p>	<p>EPR is a policy approach in waste management that makes producers responsible for the entire lifecycle of their products, including their collection, recycling, and disposal. In 2022, EPR initiatives utilizing market mechanisms were implemented for plastic packaging, E-waste, battery waste, and used oil.</p>

<b>Swachh Bharat Mission for Solid Waste Management</b>	Central assistance is provided under Swachh Bharat Mission for solid waste management, including plastic waste management in urban and rural areas.
<b>Compost Banao, Compost Apnao Campaign</b>	It is a multi-media campaign launched by MoHUA on waste-to-compost under SBM-(U). The aim is to <b>encourage people to convert their kitchen waste into compost to be used as fertilizer</b> and to reduce the amount of waste getting to landfill sites.
<b>Promotion of Waste to Energy</b>	The <b>Ministry of New and Renewable Energy (MNRE)</b> launched Program on Energy from Urban, Industrial, Agricultural waste/residues and Municipal Solid Waste to promote setting up of <b>Waste-to-Energy projects and to provide central financial assistance.</b>

### What should be the way Forward?

- 1. Scientific Waste Management-** The waste management planning should be based on **sound scientific and engineering studies**. They should consider **waste composition, capital and long-term operating costs, transport distances, and the geographical location of waste processing and disposal facilities**.
- 2. Smart Waste Management System-** In the long term, technology like (Internet of Things) can be integrated into waste management. **For ex-** RFID-Enabled Door-to-door waste collection monitoring can enhance collection efficiency and GPS based vehicle tracking can help in real time monitoring.
- 3. Emphasis on recycling and processing-** Policies supporting recycling and processing of waste must be implemented stringently. Waste processing methods like **composting, vermicomposting and bio-methanation** should be adopted for treating organic waste.
- 4. Scaling up Waste-to-energy-** Bio-methanation (anaerobic digestion) which uses microorganisms to convert the organic waste into methane, can be used as fuel. **Bio-methanation plants** should be scaled up. Also, **refuse-derived fuel (RDF) which consists of plastics, paper, and textile waste**, having good calorific value and can be used to generate power in waste-to-energy projects.
- 5. Strict Implementation of Rules-** Waste Management Rules which have incorporated '**Polluter Pays Principle**', need to be stringently implemented to penalize non-compliance.
- 6. Increasing Public Awareness-** **Self- help groups, residents' welfare associations, and community-based organizations** should be encouraged to educate and acquaint people with beneficial waste management strategies, including separation, recycling modes, and drop off centers for recyclables, as well as composting.

Read More- [The Hindu](#)

UPSC Syllabus- GS III, Conservation, Environment Pollution and Degradation.

### Compensatory Afforestation in India – Significance and Challenges – Explained, Pointwise

The Supreme Court of India recently directed the Forest Survey of India to investigate the felling of trees to construct an **11 km road in the Aravallis' Southern Delhi Ridge sector**. This directive followed revelations that tree felling began before the Ministry of Environment, Forest and Climate Change (MoEFCC) granted preliminary permission. SC has ordered Delhi Development Authority (DDA) to plant 100 new trees for every single tree removal, as a compensation. However, it is not a sufficient measure to make up for the forest loss. Therefore, there is a **need to analyse the effectiveness of Compensatory Afforestation (CA)** in India and the need for stringent environmental protections.



## Compensatory Afforestation in India

### What is Compensatory Afforestation?

Compensatory afforestation (CA) involves **planting trees to replace forest land diverted for non-forest uses**, such as industrial or infrastructural projects. CA has been made a **legal requirement** in India through the Compensatory Afforestation Fund Act of 2016. The goal is to mitigate the ecological impact of deforestation by ensuring that new forest areas are created to compensate for the loss.

Compensatory afforestation requires any industry or institution authorized to clear forest land for non-forestry uses to:

- a) **allocate an equivalent area** of non-forest land to forest authorities,
- b) **fund the reforestation** of this newly provided land.
- c) The money is first deposited in the **Central fund**, from where it gets disbursed to states where the projects are located.

This land should ideally be **located as close as possible** to the original deforested area.

If suitable non-forest land is not available nearby, the entity must then provide twice the area in 'degraded' forest land which is land recognized as forest but characterized by very low tree density for afforestation purposes.

### **What was the need of compensatory afforestation?**

**Increasing forest diversion:** From 2001 to 2021, India experienced a net increase in total forest cover by 38,251 sq. km. However, this growth primarily occurred in open forest areas with a tree canopy density of 10-40%. During the same period, forest cover with a canopy density above 40% decreased by 10,140 sq. km.

Between January 2015 and February 2019, about 54,648 hectares of forest land—an area nearly equivalent to Mumbai's size—were diverted for non-forest purposes.

**National Commitment:** India has committed to increasing its forest and tree cover to absorb an additional 2.5 billion to 3 billion tonnes of carbon dioxide equivalent by 2030.

**Ecological Balance:** Compensatory afforestation (CA) helps maintain ecological balance by restoring forest cover lost due to development projects. For example, tree felling in the Delhi Ridge area for urban development disrupts local ecosystems, and CA aims to mitigate these impacts.

**Carbon Sequestration:** New plantations help in sequestering carbon dioxide, thereby mitigating climate change. According to the ISFR 2019 report, India's forest carbon stocks increased to 7124 MtC, highlighting the role of afforestation efforts in carbon absorption.

### **Evolution of Compensatory Afforestation in India**

**As per Forest Conservation Act (1980),** forest land diverted for non-forest use must be compensated by afforestation on an equivalent area of non-forest land.

In 2002, the supreme court of India in the TN Godavarman Vs union of India ordered the creation of a CAMPA fund. CAMPA was established in 2004, to manage the Compensatory Afforestation Fund (CAF) and act as the custodian of the CAMPA fund.

**Compensatory Afforestation Fund Act (2016):** The act came into force in 2018.

It established a **National Compensatory Afforestation Fund** under the **Public Account of India**.

It established the Compensatory Afforestation Fund Management and Planning Authority (CAMPA) at both national and state levels, to manage the funds collected from industries for compensatory afforestation.

Share of National Fund and state fund in the total fund will be in the ratio of 10: 90.

These Funds will be primarily spent on afforestation to compensate for loss of forest cover, regeneration of forest ecosystem, wildlife protection and infrastructure development.

**Forest (Conservation) Rules, 2022:** These rules introduced new guidelines for **accredited compensatory afforestation**, allowing it to be used in place of traditional CA if it meets certain criteria. This includes creating a land bank for compensatory afforestation. 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. It aims to streamline the process of obtaining prior approval for using forest land for non-forest purposes .

**Read more – [Forest Conservation Rules, 2022](#)**

### **What is the Process of Compensatory Afforestation?**

- 1) When a project requires forest land, the project holder must seek approval from the MoEFCC under the Forest (Conservation) Act, 1980. He must provide details of the land to be diverted and the purpose of the diversion.
- 2) Project holder must submit a Compensatory Afforestation Plan. It should include identifying equivalent non-forest land for afforestation or degraded forest land for restoration.
- 3) If the plan is approved by Forest Advisory Committee (FAC), project holder must make financial contributions to the Compensatory Afforestation Fund (CAF). The amount is calculated based on the Net Present Value (NPV) of the diverted forest land.
- 4) The state forest department is responsible for implementing the afforestation plan for site preparation, planting, and maintenance of saplings. The identified non-forest or degraded forest land is handed over to the state forest department.
- 5) However, Compensatory Afforestation Fund Management and Planning Authority (CAMPA) oversees the implementation of CA projects.
- 6) The funds cannot be used for administrative expenses like salaries or office equipment, ensuring that the money is spent directly on ecological restoration.

#### **What are the other initiatives for Afforestation?**

Several initiatives have been launched to support compensatory afforestation in India:

**National Afforestation Programme (NAP):** NAP is a centrally sponsored scheme that aims to regenerate degraded forest areas and increase forest cover through people's participation.

**Green India Mission (GIM):** Part of the National Action Plan on Climate Change, GIM focuses on afforestation, reforestation, and restoration of degraded ecosystems. It aims to increase forest and tree cover, improve the quality of forest cover, and enhance biodiversity.

**National Afforestation and Eco-Development Board (NAEB):** NAEB Established under the Ministry of Environment, Forest and Climate Change (MoEFCC). It works to coordinate and intensify afforestation and eco-development activities, promoting sustainable management of natural resources.

#### **What are the challenges to the effective implementation of Compensatory Afforestation?**

**Forest Conservation Act 2023:** After the exclusion of some of forest types from the protection by forest conservation act 2023, there might not be any need to compensate for the cleaning of such forest areas.

#### **Read More – [Forest Conservation Act 2023](#)**

**Greenwashing:** It is a deceptive practice, where an illusion is created that a particular practice is in force for the benefit of environment. According to some experts, compensatory afforestation is also an example of 'greenwashing', as it has legitimized the clearing of forests.

#### **Land Availability:**

Finding suitable non-forest land for afforestation is challenging. Often, land is not available in the same region, leading to afforestation in distant areas, which may not compensate for local ecological loss. For example, forest land diverted in Goa is compensated by afforestation in Karnataka, which does not address local ecological imbalances.



Majority of Indian states have confirmed the unavailability of land banks for planting new forests. In the absence of land, most afforestation is carried over a span of five to ten years, after which the same lands are replanted.

**Quality of Afforestation:** Monoculture plantations, often used in CA, cannot replicate the biodiversity of natural forests, resulting in ecological imbalances. Studies show that over 70% of CA plantations in 10 states were on forest land instead of non-forest land, violating guidelines .

**Fund Utilization:** Despite significant funds, there are issues with efficient utilization. Bureaucratic hurdles and lack of transparency often result in underutilization of resources. By August 2018, Rs. 52,000 crores were lying unused with the central government for CA .

**Monoculture:** Native forests are complex natural ecosystems that hosts 30-40 different native species, a relation that developed over a million years. CA is leading to large-scale monoculture, single-variety tree plantations of non-indigenous, commercial species such as eucalyptus and teak, which cannot be compared to a forest.

**Implementation Challenges:** The process of implementing compensatory afforestation is fraught with challenges. For example, the relocation of communities to make way for CA often leads to social conflicts and displacement of indigenous populations, disrupting their traditional way of life.

**Monitoring and Data Accuracy:** Monitoring the success of afforestation efforts is often inadequate. A significant portion of data received by the central ministry is incorrect or incomplete, and the survival rates of planted saplings are not consistently tracked. This leads to gaps in understanding the actual impact of CA efforts .

**Reduces participation of local bodies:** Furthermore, the CA fund provided for under the act has diminished the authority of *gram sabhas* and further aid forest departments since the funds generated from diversion of the land (around 660 billion) should have been given to the former but is instead being directed to the latter.

### **What should be done to make compensatory afforestation in India effective?**

**Forest Definition:** An important element of a sound roadmap for forest regeneration is a redefinition of what is considered a 'forest'. Its definition should be inclusive that can protect even small patches of tree groups. It is the initial requirement that need project owner to act for environment.

**Better Planning and Implementation:** Ensure that afforestation projects are well-planned and executed, focusing on ecological balance and biodiversity. For instance, projects should prioritize diverse plantations over monocultures to better mimic natural forests.

**Community Involvement:** Involve local communities and tribal groups in planning and executing afforestation projects to ensure their livelihoods are protected and enhance project success. The Forest Rights Act recognizes the rights of forest-dwelling communities, which should be upheld in afforestation efforts .

**Monitoring and Evaluation:** Implement robust monitoring mechanisms to track the success of afforestation projects and make necessary adjustments. Regular evaluation and reporting can ensure the effectiveness of CA. For example, monitoring should focus not just on the number of saplings planted, but on their survival and growth over time .

**Efficient Fund Management:** Streamline fund allocation processes and ensure transparency to utilize available funds effectively. Efficient fund management is crucial for the success of CA projects. Recommendations from environmental experts and reports on fund utilization should be taken seriously to address these issues .

Compensatory afforestation is crucial for mitigating the environmental impacts of development projects. While it faces challenges, addressing these issues through better planning, community involvement, and efficient fund management can enhance its effectiveness in preserving India's ecological balance.

**UPSC Syllabus Topic** – GS Paper 3, Environment, Conservation of Environment

**Source:** [Times of India](#)

### **The Issue of Illegal Hoardings in India-Explained Pointwise**

The recent collapse of giant outdoor hoarding which left **16 people dead and over 70 people injured**, has led to serious questions about the illegal hoardings in India. The billboard was **installed without authorisation** from the Brihanmumbai Municipal Corporation (BMC).

The deaths caused by illegal hoardings are not new in India. In **May 2023**, hoarding collapse in **Pune** left 5 persons dead. In **June 2023**, hoarding collapse in **Coimbatore** left 3 persons dead.

#### **What are reasons behind illegal Hoardings in India?**

**1. Oversized Hoardings-** The hoarding operators generally put up **oversized hoardings which are greater than the required permissible size**, due to lack of effective oversight by the municipal bodies. **For ex-** The recent hoarding which collapsed in Mumbai was **9 times the permissible size**.

**2. Lack of transparency-** The outdoor advertisement policies across different cities in India **lack the provisions for strict and time-bound action** against illegal hoardings. **For ex- Bombay HC** providing the procedure for removal of illegal hoardings in case of failure of BMC to remove illegal hoardings.

**3. Lack of effective enforcement-** The lack of effective enforcement of the established policies has also led mushrooming of illegal hoardings in India. **For ex-** Lack of effective implementation of **Delhi Outdoor Advertising Policy 2017**, **Bruhat Bengaluru Mahanagara Palike Advertisement Rules 2021**, and **Tamil Nadu Urban Local Bodies Rules 2023**.

**4. Unauthorised temporary installations-** Unauthorised hoardings also include **unauthorised temporary banners and flexes**, which are often put up by political party operatives. These **temporary banners and flexes are usually not covered under the advertising policies** of the municipal corporations, but pose a significant safety risk.

**5. Corruption-** Inefficiency and corruption within local bodies **hinders the effective enforcement of the policies** related to illegal hoardings in India. **For ex-** The authorities failing to learn lessons from similar incidents in **Pune (2017)** and **Pimpri-Chinchwad (April 2023)**, which claimed lives.

#### **What are the issues in urban governance that have led to mushrooming of illegal hoardings in India?**

**1. Improper Devolution of Powers-** The 74th amendment requires state governments to devolve 18 functions, including land use regulation, to municipalities. **However, as per NITI Aayog report, no state has delegated all 18 functions to civic bodies**. Hence, the civic bodies in India lack the teeth to curb the rise of illegal hoardings in India.

**2. Overlapping Jurisdictions-** Urban local bodies are often constricted due to **overlapping jurisdictions with other state agencies**, leading to confusion and shifting of accountability. **For ex-** In Delhi, **confusion prevails between DDA and PWD** over civil infrastructure maintenance works.

**3. Lack of Regular Civic Election-** The failure of state governments to hold civic body elections has led to the crippling of powers of urban bodies. **For ex-** Bengaluru which is facing a severe water crisis lacks elected corporators.

Read More- [Issues with Local Governance in India – Explained, pointwise](#)

#### What are the impacts of Hoardings which are illegal in India?

- 1. Safety Hazards-** Illegal Hoardings carry **structural risks** with chances of poorly constructed hoardings collapsing and posing risks to pedestrians and Vehicles. These illegal hoardings can **obscure traffic signals and signs** leading to grave accidents. **For ex-** Collapse of hoarding in Mumbai killing 16 people.
- 2. Environmental Concerns-** Removal of illegal hoardings generates waste materials, which adds to the problem of **increasing solid waste in India**.
- 3. Unfair competition-** Legal advertisers face unfair competition from illegal hoarding operators as they **evade bearing the cost of permits**.
- 4. Revenue Loss-** The local municipalities suffer **loss of potential revenue due to evasion of advertising fees**.

#### What are the Laws Regarding illegal hoarding's removal in India?

<b>Delhi Outdoor Advertising Policy, 2017</b>	The Delhi Outdoor Advertising Policy, 2017 requires that the <b>owners of non-compliant advertisements be asked to remove the structure within a specified time</b> , failing which they are to be removed by the municipal authority. The policy also allows the suo motu removal of unauthorised devices that pose a hazard to road traffic.
<b>Bruhat Bengaluru Mahanagara Palike Advertisement Rules, 2021</b>	The rules vest the <b>Chief Commissioner with the power to remove unauthorised hoardings</b> , and constituted an Advertisement Regulatory Committee to monitor compliance enforcement and the removal of unauthorised advertisements.
<b>Tamil Nadu Urban Local Bodies Rules, 2023</b>	The Tamil Nadu Urban Local Bodies Rules, 2023 require the municipal officials concerned to <b>review the licensing of hoardings every three months</b> and submit quarterly reports to the chief administrative officer of the urban local body

#### What is the Way Forward?

- 1. Instituting transparency in advertising policies-** Advertisement policies **must expressly state the process through which complaints against illegal advertisements** may be raised and the action to be undertaken. **For ex-** The Delhi Outdoor Advertising Policy, 2017 that requires the owners of non-compliant advertisements to remove the structure within a specified time, failing which they are to be removed by the municipal authority.
- 2. Appointment of inter-departmental bodies-** Inter-departmental bodies must be constituted, which **undertake periodic zone-wise or ward-wise inspection of outdoor advertisements**, to ensure that they meet the standards laid down in law. **For ex-** Inter departmental bodies consisting of **personnel from the traffic department** along with **zonal or ward-level officers of the corporations** and **departmental safety engineers**.
- 3. Effective deployment of technologies-** Corporations should create platforms and mechanisms through which citizens may report violations. Compliance may be monitored through the effective deployment of technology, such as the **embossing of QR codes on all authorised hoardings**.
- 4. Public Awareness Campaigns-** Public awareness campaigns must be undertaken **educate citizens and businesses** about the legal requirements and hazards of illegal hoardings.

**5. Holding regular elections in civic bodies-** Supreme Court in the **Suresh Mahajan case (2022)**, ordered the state governments and State Election Commissions (SEC) to ensure the establishment of a newly elected body in all municipalities before the expiration of the outgoing council's five-year term.

**Read more-** [The Hindu](#)

UPSC Syllabus- Issues and Challenges Pertaining to the Federal Structure, Devolution of Powers and Finances up to Local Levels and Challenges Therein.

### VIP Helicopter Crashes- Reasons and Guidelines- Explained Pointwise

On May 19, 2024, the fatal crash of a Bell 212 helicopter, flying the President of Iran, Ebrahim Raisi, and Foreign Minister, Hossein Amir-Abdollahian, **has drawn our attention towards helicopter crashes**. The fatal crash of the Iranian president's helicopter is the latest in a series of helicopter crashes involving politicians and other high-ranking officials, over the past several decades.



Figure 1. Source- Indian Express

#### What have been the famous helicopter crashes?

Helicopter crashes have resulted in the death of major personalities, both globally and in India. Mentioned below is the list of famous personalities who died in the helicopter accidents-

<b>January 2024- Former Chilean President Sebastian Pinera</b>	<b>Former Chilean President Sebastian Pinera</b> died from <b>drowning after a helicopter crash in a lake</b> in the south of the country on February 6, 2024.
<b>December 2021- CDS General Bipin Rawat</b>	India's top most defence official, <b>Chief of Defence Staff (CDS) Gen Bipin Rawat</b> , his wife, and twelve other defence officials died in a chopper crash near Tamil Nadu's Coonoor on December 8, 2021.
<b>April 2011- Arunachal Chief Minister, Dorjee Khandu</b>	Arunachal Pradesh Chief Minister Dorjee Khandu <b>died in a helicopter crash on April 30, 2011</b> . He was found dead in Luguthang, near the China border.
<b>September 2009- Andhra Pradesh Chief Minister, Y S Reddy</b>	<b>Andhra Pradesh Chief Minister Y S Rajasekhara Reddy</b> was found dead after a helicopter went missing on 3 September 2009. The senior Congress leader, <b>popularly known as YSR</b> , was flying a <b>Bell 430 to Chittoor district</b> in Andhra Pradesh.

<b>March 2005- Haryana cabinet ministers, O P Jindal &amp; Surendra Singh</b>	O P Jindal, Haryana's then-power minister, a noted industrialist, and state agriculture minister Surendra Singh were killed when the <b>chopper carrying them developed a technical snag</b> and went down near Saharanpur in Uttar Pradesh on March 31, 2005.
<b>March 2002- TDP leader, G M C Balayogi</b>	Lok Sabha Speaker and Telugu Desam leader GMC Balayogi died in a chopper <b>crash</b> on March 3, 2002, in Andhra Pradesh. An official probe revealed that the <b>crash occurred due to poor visibility</b> , when the pilot mistakenly landed on a <b>pond thinking it was a land surface</b> .
<b>September 2001- Congress leader, Madhavrao Scindia</b>	Madhavrao Scindia, a senior Congress leader, and a former union cabinet minister, was killed in a <b>Cessna aircraft crash on September 30, 2001</b> , while travelling to Kanpur in Uttar Pradesh to address a public rally.
<b>August 1988- President of Pakistan, Muhammad Zia-ul-Haq</b>	President of Pakistan, <b>Muhammad Zia-ul-Haq died in a plane crash</b> on 17th August 1988.
<b>June 1987: Prime Minister of Lebanon, Rashid Karami</b>	Prime Minister of Lebanon, <b>Rashid Karami was killed on June 1, 1987, when a bomb exploded aboard a military helicopter</b> . The Interior Minister Abdullah Rassi and three of the other 12 aides and crewmen on the aircraft were injured in the incident.

### What are the reasons behind helicopter crash in India?

- 1. Unsafe and harsh weather conditions-** Thick fog, high speed wind and heavy rainfall endanger the helicopter flight and landing safety. **For ex-** The **helicopter accident of CDS Bipin Rawat was a result of unexpected change in weather conditions**, which resulted in pilot's spatial disorientation and subsequent crash.
- 2. Misjudgements induced by optical illusions-** The visual and depth perception produced in fog and heavy rain, creates optical illusions. Several accidents have been caused due to misjudgements induced by these optical illusions.
- 3. Tweaking with the GPS system-** GPS had improved the navigation in poor visibility conditions. Military aircrafts in **order to avoid enemy interception or identification** have **started tweaking with the GPS System**. This has increased the vulnerability of helicopter flights to fatal accidents.

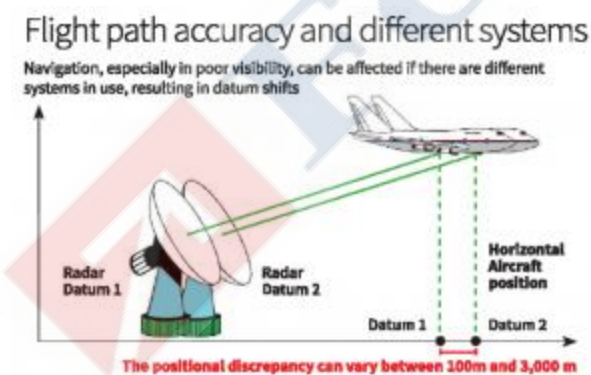


Figure 2. Source- The Hindu

**4. Violation of rules of flight safety-** Pilots have been indulging in violation of safety rules set by the Directorate General of Civil Aviation, the Airports Authority of India and airlines.

**5. Pressure by the owners-** There have been reported instances of crashes where the **pilots have been arm-twisted into flying** in dangerous weather conditions. **For ex-** There have been reported cases of undue pressure on the crew to fly despite bad weather conditions.

**6. Mechanical Failure-** Mechanical issues, such as **engine failure, rotor malfunction**, and other critical component failures, have also led to helicopter crashes.

### What are the consequences and Impact of Helicopter crashes?

**1. Fatalities-** Helicopter crashes often result in significant fatalities of the most prominent politicians and leaders. **For ex-** Death of Iranian President, which carries the risk of domestic turmoil.

**2. Economic Impact-** Crashes can lead to substantial financial losses including the cost of the helicopter, legal liabilities, and compensations.

**3. Environmental Damage-** The **Brazilian Rainforest Crash (2017)** not only resulted in human casualties but also caused environmental damage due to fuel spillage and wreckage debris, affecting the pristine ecosystem.

**4. Trauma and Psychological damage-** Survivors of helicopter crashes often experience long-term psychological trauma, which includes post-traumatic stress disorder (PTSD). **For ex- Survivors of the 2009 Hudson River helicopter crash** required extensive psychological support.

### What measures have been taken in India to avoid crashes?

**DGCA Guidelines for flying VIP Choppers-** New safety rules have been put in place for **VIP operation of planes and helicopters** to avoid mishaps like the one which killed former Andhra Pradesh Chief Minister YSR Reddy.

**1. New definition of VIP Flight-** The new rule says that a VIP flight would mean having amongst the passengers any **one of the eight categories of dignitaries**. The categories include the Lok Sabha Speaker, Rajya Sabha Deputy Chairperson, Cabinet Ministers, Chief Justice of India, 1Governors, Chief Ministers, State Cabinet Ministers and the SPG protectees who enjoy 'Z-plus' category security.

**2. Strict adherence to weather advisories-** No flight would be allowed to be operated when "weather conditions are not conducive to safe operations", and every VIP flight would be operated with "a multiple crew composition".

**3. Pilot experience requirement-** For helicopter pilots, the commander should possess licenses, with **2,000 hours of flying experience including 500 hours as Pilot in Command (PIC) on the same aircraft type**. They should also have at least 10 hours of night flying experience.

**4. Registration of State aviation PSUs-** Aviation departments of state governments or aviation divisions of **PSUs need to apply to the DGCA for undertaking aircraft operations** with a **fee of Rs one lakh**. State departments and PSUs, would also **have to apply to the DGCA for importing of planes or helicopters**. The granted permits which would be renewable every two years depending on fulfilment of all necessary conditions.

**5. Aircraft maintenance and repairs-** The aircraft should be **fitted with all suitable equipments needed for instrument flying** and pilots should hold valid instrument ratings.

**6. Review of SOPs-** Helicopter operators of state governments and public sector units need to review their Standard Operating Procedures on various issues. These include **VIP sorties over difficult terrains like dense forests, hilly areas and large water bodies**.

The DGCA, India's civil aviation regulatory body, has established **comprehensive regulations for helicopter operations**. These include **requirements for airworthiness, operational safety, and pilot licensing**. The DGCA conducts **regular safety audits of helicopter operators to ensure compliance with safety standards**.

<p><b>Technological Advancements</b></p>	<p><b>Terrain Awareness and Warning Systems (TAWS)-</b> The DGCA mandates the installation of TAWS in helicopters to <b>prevent Controlled Flight Into Terrain (CFIT) accidents</b>.</p> <p><b>Helicopter Flight Data Monitoring (HFDM)-</b> HFDM systems are used to continuously monitor and analyse flight data, <b>helping to identify and rectify potential safety issues proactively</b>.</p>
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	<b>Weather Monitoring Systems-</b> Advanced weather monitoring and forecasting tools are used to <b>avoid adverse weather conditions that could lead to crashes.</b>
<b>Pilot Training and Certification</b>	<b>Comprehensive Training Programs-</b> Pilots undergo <b>rigorous training programs, including simulation training,</b> to handle various in-flight scenarios and emergencies. <b>Regular Re-certification-</b> Pilots are required to <b>undergo regular re-certification to ensure their skills and knowledge are up-to-date</b> with the latest safety protocols and technologies.
<b>Operational Guidelines</b>	<b>Standard Operating Procedures (SOPs)-</b> Operators must develop and adhere to <b>SOPs for various phases of flight,</b> including takeoff, cruising, and landing. <b>Pre-Flight Inspections-</b> Comprehensive pre-flight inspections are mandatory to <b>ensure the helicopter is in optimal condition</b> before each flight.

#### What should be the Way Forward?

- 1. Accountability on the part of helicopter operators-** **Kaushik Committee reports of 1991 and 2005** called for more accountability on the part of aircraft operators. This has to be followed in letter and spirit.
- 2. Advanced Weather Monitoring-** The focus must be to improve weather monitoring and forecasting tools to avoid flying in adverse conditions.
- 3. Technological Innovations-** The Implementation of **better navigational aids, crash-resistant fuel systems,** and **enhanced communication tools,** will also help in averting these crashes.
- 4. Regulatory Oversight-** Stronger regulations and oversight by aviation authorities will ensure compliance with safety standards.

**Read More-** [The Hindu](#)

**UPSC Syllabus- GS 2-** Government Policies and intervention

### International Year of Millets – Achievements and Shortcomings

The closing ceremony for the **International Year of Millets** was held by the **Food and Agriculture Organisation** in Rome on March 29 this year. The ceremony was closed on a positive note of sustaining the momentum built on the back of a **successful International year of millet programme.**

It was in March 2021, at the 75th session of the United Nations General Assembly, where **India proposed that 2023 be declared the International Year of Millets.** Seventy countries had supported India's proposal. Despite, government's multiple steps to enhance millet production in India, **the production and consumption ecosystem of millets faces certain challenges** that need to be overcome to further improve adoption and consumption of millets.

#### What are Millets? What are the climatic conditions suitable for growth of Millets?

**Millets-** Millets are a group of **small-seeded grasses** (Poaceae or grass family). These are widely grown around the world as cereal crops or grains. They are used as both human food and animal fodder.

Millets are not new to India. They are mentioned in prehistoric texts. However, **due to the push to food security through the Green Revolution in the 1960s,** millets were rendered **"orphan crops"**- as they were less consumed and were almost forgotten.

**Types of millets-** Millets include three major millets- **Sorghum** (Jowar), **Pearl** (Bajra), **Finger** (Ragi) and six minor millets- **Barnyard** (Sanwa), **Proso** (Chenna/Barri), **Foxtail** (Kakum), **Kodo**, **Brown Top** and **Little** (Kutki/Shavan).

**Climatic Requirements-** Millets require warm temperatures for germination and development, and are sensitive to frost. For these reasons, they are **normally planted from mid-June to mid-July period**. Optimum soil temperatures for seed germination are between **20°C and 30°C**. Millets are **efficient users of water and grow** well in areas of low moisture. They can grow in areas with annual rainfall range of **~30-50 cm**. Millets are often grown as **catch crops**– a crop grown in the space between two main crops or at a time when no main crops are being grown.

**Soil Requirements-** Millets are highly adaptable to a variety of **soil conditions**, from **extremely poor to very fertile**, and can handle a degree of alkalinity. **Alluvial, loamy, and sandy soils** with good drainage are the ideal soils for millet cultivation.

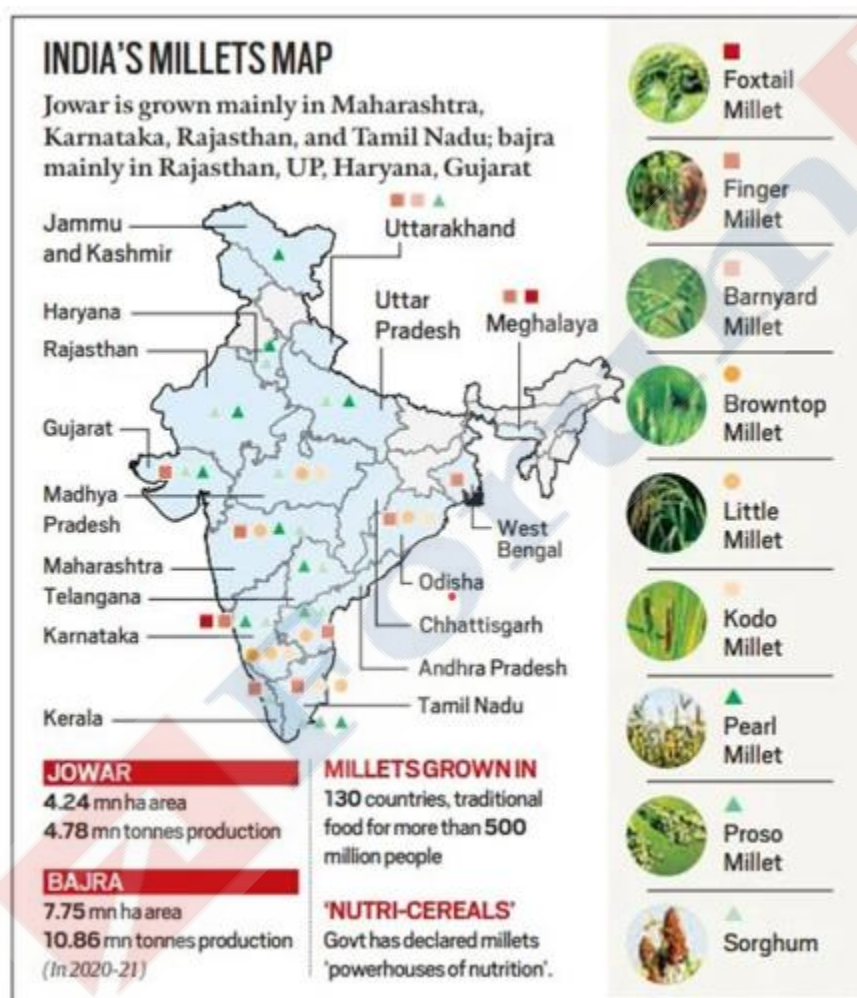


Figure 3. Source- The Indian Express

considered neglected grains, got unprecedented global and national attention. **For ex- Promotion of millets at G20 Dinner.**

### Millet Production in India-

a. India produces more than **17 million tonnes of millets a year**. It is **80% of Asia's** and **20% of the global output**.

b. Ten states, which are characterised by low to moderate annual precipitation (200–800 mm rainfall), produce almost all the millets grown in India. These are **Rajasthan, Uttar Pradesh, Haryana, Gujarat, Madhya Pradesh, Maharashtra, Karnataka, Tamil Nadu, Andhra Pradesh, and Telangana**.

c. **Jowar** (sorghum), **bajra** (pearl millet), and **Ragi** (finger millet) together account for more than 70 per cent of the total millets produced in India.

### What is the significance of International Year of Millets?

**1. Promotion of millets on national and Global Level-** Millets which were once



**2. Commercialisation of the crop-** Capitalisation of the crop by big and small companies, which launched a **plethora of products featuring millets**– from cookies to exotic and gourmet dishes. **For ex- 1,000 startups springing up in millets production.**

**3. Spread of knowledge about millets-** International Year of Millets has spread the knowledge about the **importance of millets on local and global platforms.** These crops can help in ensuring food security without affecting the climate.

**4. Strengthening of millet value chains-** During the international year of millets, several novel food trends, such as the **full range of Ready to Eat items of millets** were introduced, which strengthened the millets value chain. It also led to better price realisation by the farmers.

### **What are the benefits of Millets as a crop?**

#### **1. Nutritional and Health**

**(a) More nutritious as compared to other fine cereals-** According to ICAR-Indian Institute of Millets Research, Hyderabad, Millets contain 7-12% protein, 2-5% fat, 65-75% carbohydrates and 15-20% dietary fibre. They are more nutritious compared to fine cereals as they contain higher protein, fat and fibre content.

**(b) Lower risks of diseases-** They are gluten-free and non-allergenic. They have low Glycaemic Index and pose lower risks of diabetes. Millets also help to combat cardiovascular diseases, anaemia, calcium deficiency etc.

**(c) Rich source of micronutrients-** Millets are also rich in micronutrients like calcium, iron, zinc, iodine etc., and they are three to five times more nutritious than wheat and rice in terms of proteins, minerals and vitamins.

**(d) Healthy growth and development of Children-** According to a study conducted by ICRISAT, millets boost the physiological growth and development in children and adolescents, when rice is replaced by millets in standard meals.

#### **2. Food Security**

**(a) Combating Hunger-** Millets are sustainable food source for combating hunger in a changing world climate. **Millets secure sixth position in terms of world agricultural production of cereal grains** and are still a staple food in many regions of the world.

**(b) Resistant to climate change-** Millets are **resistance to climatic stress, pest and diseases**, and they can be stored for long distances with ease.

#### **3. Environmental**

**(a)** Millets are drought resistant and have lower water requirement. Millets can grow in regions with <50 cm annual rainfall. They have **short growing season and require less water during growth.**

**(b)** They can be grown in dry land areas using farmyard manures. This **reduces their dependence on synthetic fertilisers.**

#### **4. Economic**

**(a)** Millets offer farmers a **stable source of income as they are drought-resistant** and less susceptible to failure due to weather-related events

**(b)** Millet production **requires a low initial capital investment.**

#### **5. Social**

**(a) Fulfilment of SDGs-** Millets have the potential to help achieve the sustainable development goals (SDGs), mainly **SDG 2** (Zero Hunger), **SDG 3** (Good Health and Well-being), **SDG 12** (Sustainable Consumption and Production), and **SDG 13** (Climate Action)

**(b)** Millets can be helpful in reducing gender nutrition gaps and inequalities

(c) Millets can also help in doubling of farmers' income and an increase in human capital as a result of an increase in the availability of nutritious food.

### What steps have been taken to promote Millet Production?

<b>National Year of Millets and International Year of Millets</b>	The Union Agriculture Ministry, declared millets as 'Nutri-Cereals', considering their 'high nutritive value' and 'anti-diabetic properties'. The year 2018 was observed as 'National Year of Millets'. The UN General Assembly adopted an India-sponsored resolution to mark 2023 as the 'International Year of Millets'
<b>Revamped National Food Security Mission Operational Guidelines (NFSM)</b>	The Government of India has laid specific focus on 212 millet districts in 14 states to provide incentives to farmers for quality seed production/distribution, field-level demonstrations, trainings, primary processing clusters and research support. 67 value-added technologies at the 'Centres of Excellence' has been supplemented with the release of 77 high-yielding and 10 bio-fortified varieties.
<b>Agricultural Infrastructure Fund (AIF)</b>	US\$ 14-billion Agricultural Infrastructure Fund (AIF) has pushed investments across States to support millet entrepreneurs, primary processing machines for dehulling millets (removal of husk) and the formation of millet farmer collectives.
<b>10,000 FPOs' programme</b>	The promotion of 10,000 FPOs' programme aims at the millet producers' effective market participation as member shareholders in these entities.
<b>'One District One Product' (ODOP)</b>	The 'One District One Product' (ODOP) initiative has identified 27 millet focus districts, for streamlining millet supply chains.
<b>State Governments initiatives</b>	The Odisha Government's 5-year 'Millet Mission' is supplementing the input as well as marketing needs of indigenous small and marginal farmers like the Dongria Kondhs across the state to grow millets.

### What are the Challenges with Millet Production in the Country?

**1. Mono-cropping-** The Green Revolution has altered the cropping pattern to wheat-paddy cycle. The area under Millet cultivation reduced from 37 million hectares in pre-Green Revolution period to ~14 million hectares. Millets have become a predominantly fodder crop from staple diet earlier.

**2. Declining acreage and production-** In spite of the push due to international year of millets, the acreage and production of millets in India has dropped in 2023-24. The area under millets declined by ~4 per cent in 2023-24 crop year and yield declined by ~ 7.4 per cent.

**3. Lesser remuneration-** The return from millets are less remunerative as compared with other cereals like wheat and rice. For ex- According to CACP data, the gross returns over A2+FL cost of cultivation for paddy was around 42.1%, while it was 19.3% for jowar and 4.1% for ragi.

**4. Declining millet intake-** Millets have shifted from the bowl of poor and low-income household to the plates of middle and high-income groups. However, the average millet intake in the country is declining in India.

### 5. Inconsistent Supply and Demand

(a) According to NSSO household consumption expenditure survey, millets is not the first choice of either consumers of farmers. Only less than 10% of rural and urban households reported consumption of millets.

(b) The lack of access to HYV seeds has led to low crop productivity, and the lack of public awareness about nutritional benefits of millets has led to limited adoption of millets. The limited distribution and lack of market knowledge have resulted in sub-optimal reach, lower price realization and wastage.

**6. Processing Issues-** Some millets require **multiple processing for optimization of grain recovery and optimization of polishing** to retain their nutrition value. However, the processing of millets face several hurdles owing to **variation in size of various millet types and low shelf life of the processed millets.**

**7. Low Shelf Life-** Processed Millets (like millet flour) have **poor shelf life due to its intrinsic enzyme activity** (lipase activity, lipid oxidation etc.) that causes **rapid development of rancidity and bitterness.** Millet products are also prone to moisture and water activity.

**8. Ease of Consumption-** Wheat has **gluten proteins that swell and form networks** on adding water to the flour, making the dough more cohesive and elastic. The resultant chapattis come out soft, which isn't possible with millets (hard) that are gluten-free.

**9. Options in PDS-** For the rural poor, rice and wheat were aspirational foods. An **expanded PDS has provided them access to these Fine grains,** which is distinguished from coarse grains.

### What Should be the Way Forward?

**1. Forefront of India's agricultural policy-** Millets need to be at the forefront of India's agricultural policy for the next 10 years. **For ex- Promotion of production of millets in rice fallows.**

**2. Incorporation in Public programmes-** Millets must be included in public programmes such as the **PDS** and the **midday meal schemes.** Millets other than jowar, bajra, and ragi should be included in the MSP granted by the government.

**3. Production, Processing and Storage-** Millet cultivation should be encouraged because of its climate resilience, short cropping period, and capacity to thrive in poor soils, mountainous terrains, and with little rain. **For ex- Women millet farmers in rain-fed areas have to be empowered** through capacity-building and skills training.

**4. Marketing-** For sourcing quality millets as well as their steady marketing by entrepreneurs, there is a **need for linking small and marginal millet farmers to online marketing platforms,** such as the Electronic Agricultural National Market (e-NAM).

**5. Missions for millet-** State Governments must also launch missions for millet production with the help of international organisations. **For ex- International Fund for Agricultural Development (IFAD) has helped to revitalise kodo and kutki farming in Madhya Pradesh's Dindori.** There is need to replicate the Dindori model beyond one district and across other millets.

**Read More-** [The Business Standard](#)

**UPSC Syllabus- GS 3- Indian Agriculture- Cropping patterns**

## The Issue of Voter Turnout in Indian Elections

The **delay on the part of Election Commission of India (ECI) in uploading the final voter turnout data** and the **issue of low Voter Turnout,** has gained prominence during the ongoing Lok Sabha Elections.

A **3-Judge Supreme Court (SC) bench** headed by Chief Justice of India (CJI) D.Y. Chandrachud is slated to a petition filed by the NGO Association for Democratic Reforms (ADR), regarding the **discrepancies in Voter Turnout Data.** The petition seeks SC to give **directions to the Election Commission of India (ECI) to upload polling station-wise voter turnout data** on its website within **48 hours of the conclusion of polling for each phase** of the Lok Sabha elections.

Also, the voter turnout has showed a notable decline across several states, compared to the 2019 and 2014 elections. For ex- Assam has witnessed a drop from 85.3% in 2019 to 74.6% in 2024. This declining trend of voter turnout raises questions about voter engagement in the world's largest democracy and highlights the need for further analysis and understanding of the factors contributing to it.



Figure 4. Source- The Hindu

### What is the significance of enhanced voter turnout?

**1. Enhanced Legitimacy and mandate of the chosen government-** Transparently produced higher voter turnout data, suggests that the chosen government enjoys a broad support from the electorate. Hence, it provides legitimacy and a stronger mandate to the elected government.

**2. Enhanced accountability and representation-** High voter turnout holds politicians more accountable to their constituents. It also ensures the institution of a more representative government, appealing for a larger and more diverse electorate.

**3. Promotes Democratic Health and Civic Education-** A high and transparent voter turnout is an

indicator of a healthy democracy with strong civic norms and institutions. For ex- Ease of voting, competitive electoral process and strong political participation.

**4. Social Cohesion-** Lower participation of voters, exacerbate feelings of alienation and division within society, which undermines the social fabric and national unity.

### What are the issues related to Voter Turnout In India?

#### 1. Opacity in Voter Turnout Calculation and Publication

Availability of Proper data is important to calculate the actual voter turnout. It is also important to compare it to the past trends, so that corrective actions can be taken to resolve issues faced by voters.

The recent controversy, highlighting discrepancies in the calculation and publication of Voter turnout data, has evoked sharp criticisms from the Opposition and civil society. Following are the details of the controversy:

**a. A significant delay and a sizeable difference in the initial turnout figures released by the ECI and the final voter percentages published subsequently.**

Only voting percentages have been published by the ECI. There has been significant delay on the part of ECI to publish the final voter percentage. The final voter percentage has been published 11 days after the first phase of polling held on April 19 and 4 days after the second phase of polling held on April 26.

The provisional polling percentages for the first phase released by the ECI at 7 pm on April 19 was about 60% and for the second phase on April 26 was 60.96%. However, there has been a substantial increase in the final figures released by ECI. For the first phase, it stood at 66.14% (an increase of more than 5.5%) and for the second phase, it stood at 66.71% (an increase of more than 5.74%).

**b. Non publication of the absolute number of votes polled in constituency as contained in Form 17C by the ECI**

Political parties have raised the concerns regarding the **ECI's preclusion from publishing the exact voter turnout data of each polling station**, as contained in Form 17C. Also, some candidates have complained about the delay in receiving Form 17C from the returning officer.

As per the **Conduct of Election Rules, 1961 Rules**, the ECI has to maintain two forms that have data on the number of electors and the votes polled- **Forms 17A and 17C**.

<b>Form 17A</b>	It is <b>used to record the details of every voter</b> who comes into a polling booth and casts his or her vote.
<b>Form 17C</b>	It is an <b>account of all the actual votes recorded</b> . It contains information about the <b>total number of voters as entered in the register for voters (Form 17A)</b> , the <b>number of voters who decided not to record their votes</b> after signing the register and the <b>number of voters who were not allowed to vote</b> . <b>Part I of Form 17C</b> also contains crucial information like- a. The identification numbers of the EVMs used in the polling station b. The total number of test votes and votes recorded per EVM b. The total number of electors assigned to the polling station <b>Part II of Form 17C contains the results of the counting</b> carried out on the stipulated day.

The **data in Form 17C is used by candidates to verify the results** on the counting day by matching it with the EVM count. An election petition can be moved in the concerned High Court in case of any discrepancies.

## 2. Decreasing Voter Turnout

Voter Turnout has declined in both rural and urban areas. There are few reasons which are leading to a decline in the voting percentage, both in urban and rural areas:

**a. Urban Voter Apathy-** Parliamentary constituencies in various urban cities such as Mumbai, Thane, Nashik and Lucknow have displayed the **trend of urban apathy in voting**.

**b. Missing Voter Slips-** Voters have also complained of deletion of their names from the electoral rolls and not being provided the voter slips in time for voting.

**c. Heat impacting Voter Turnout-** The extreme heat of April and May has affected voter turnout by discouraging people, **especially those in rural areas**, from travelling long distances to vote.

### What Steps have been taken by the Election Commission to address the issues with Voter Turnout?

<b>Transparency in Voter Turnout Calculation and Publication</b>	<b>Mandatory sharing of Form 17C-</b> Copies of Form 17C are shared by the presiding officers with polling agents present under <b>Rule 49S(2) of the Conduct of Election Rules, 1961</b> . Hence, the candidates are aware and in possession of exact voter turnout data in absolute numbers even before it is known to the ECI.
<b>Increasing Voter Turnout</b>	<b>Addressing Voter Apathy</b> <b>a. Systematic Voter Education and Electoral Participation (SVEEP) program-</b> ECI launched the Systematic Voter Education and Electoral Participation (SVEEP) program in 2010 to <b>educate voters about the importance of voting</b> . <b>b. Turnout Implementation Plan (TIP)-</b> Targeted interventions under the Turnout Implementation Plan (TIP) have been undertaken to <b>boost participation in low turnout constituencies</b> . <b>c. Revision of electoral rolls-</b> Regular revision of electoral rolls to remove

	<p>duplicate and ineligible names while adding new eligible voters has been undertaken by ECI.</p> <p><b>Heat Wave Impact</b></p> <p><b>a. Task Force Creation:</b> The Election Commission of India has formed a task force with officials from the <b>IMD, NDMA, and MoHFW</b> to review the impact of heat waves and humidity.</p> <p><b>b. Health Authority Instructions:</b> EC has directed the <b>MoHFW to prepare state health authorities for assisting in heat wave conditions</b> affecting election operations.</p> <p><b>c. Enhanced facilities at Polling Stations-</b> EC has arranged for <b>shelters, drinking water, and fans at polling stations</b> to help voters cope with the heat.</p>
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Read More- [Electoral Reforms In India- Explained Pointwise](#)

### What should be the Way Forward?

**1. Online Publication of absolute voting data by ECI based on Form 17C data-** ECI refrains from disclosing Form 17C data as they **fear 'confusion in the minds of voters'** as it also includes postal ballot counts. ECI also **fears misuse by persons with motivated interests to cast aspersion on the whole electoral process.**

However, ECI must take progressive steps to allay these fears and publish absolute voting data of Form 17C on its website, as **smaller political parties cannot afford to have polling agents in all booths or constituencies** due to financial constraints.

**2. Ready availability of Form 17C-** The **issues of delay in providing Form 17C data by the returning officers** must be addressed by the ECI.

**3. Rescheduling of Elections-** ECI must consider **adjusting the election timetable to cooler months** to enhance voter comfort and participation, avoiding the peak heat of April to June.

**4. Enhancement of On-site Facilities-** There must be **expansion of the provision of shelters, fans, and water at all polling stations,** to better accommodate voters and staff during hot weather.

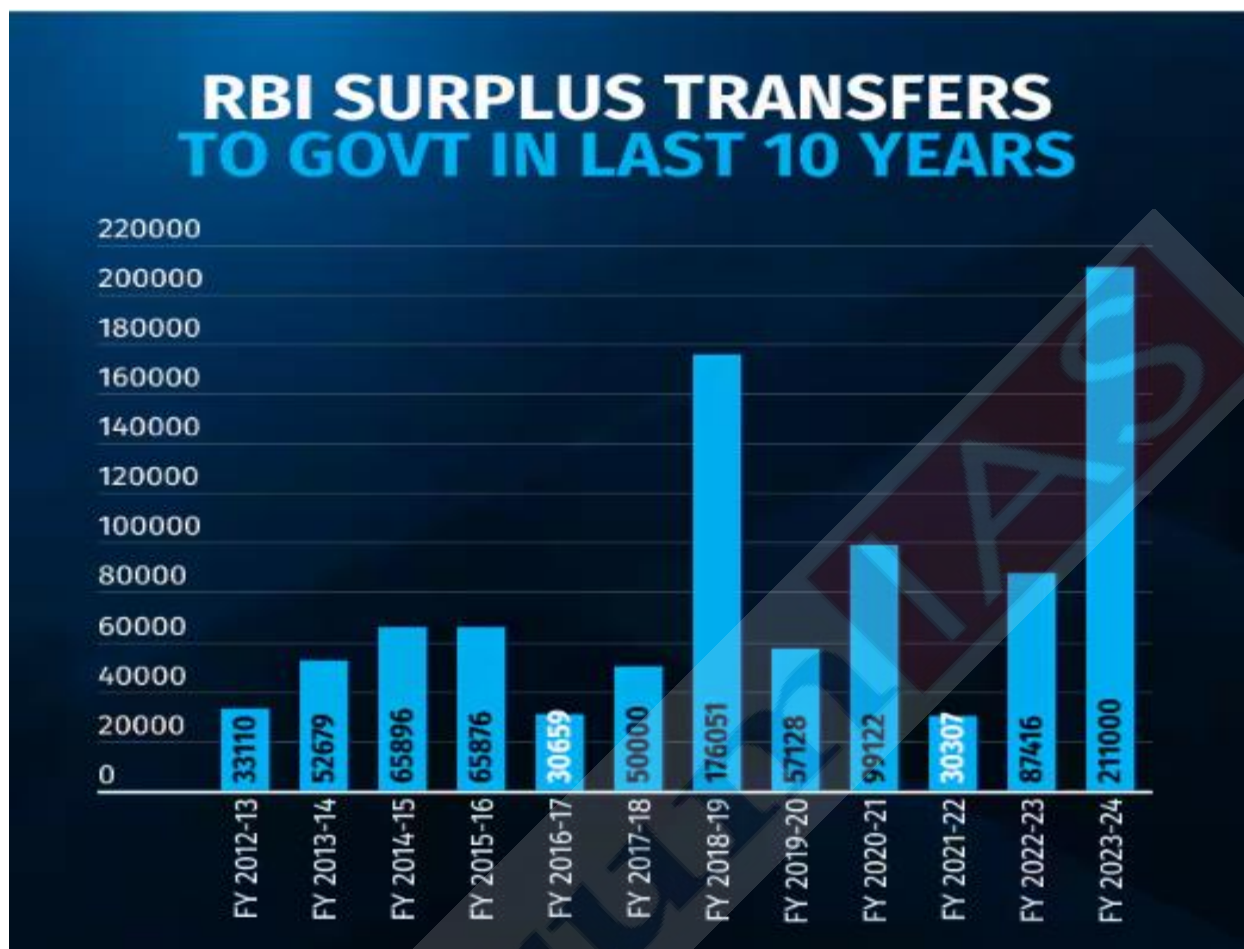
**5. Collaborative Task Force Review:** ECI must **maintain and expand the task force that reviews weather impacts before each polling phase,** to ensure timely and effective response measures.

Read More- [The Hindu](#)

UPSC Syllabus- GS 2- Issues related to RPA

### RBI Surplus Transfer to Government-Explained Pointwise

Recently, the Central Board of the Reserve Bank of India (RBI) approved a **Rs. 2.11 lakh crore surplus or dividend transfer** to the Central Government for the accounting year 2023-24. There has been an increase in surplus transfer to the **tune of 141%** over the last year's (2022-23) dividend transfer of Rs 87,416 crore. Additionally, the **contingency risk buffer** has been **raised to 6.5%** from the **previous 6%**.



Source- Money Control

### What is the source of RBI surplus? What is the mechanism for transfer of surplus by RBI?

The RBI has a unique operational nature, which stands apart from typical banks or financial entities.

Sources of Earnings of RBI	Expenditures of RBI
<ol style="list-style-type: none"> <li>Profits derived from foreign currency assets like bonds, treasury bills and central bank deposits.</li> <li>Earnings from local, rupee-based government securities.</li> <li>Short-term based lending</li> <li>Borrowing management for both central and state governments</li> <li>Regulation of banks and non-banking financial bodies.</li> <li>Commission from overseeing government transactions and specific underwriting endeavours.</li> </ol>	<ol style="list-style-type: none"> <li>Operating Expenses</li> <li>Currency Printing</li> <li>Staff remunerations</li> <li>Transaction commissions for Banks</li> <li>Dealer Compensations</li> <li>Interest Paid on Deposits and Borrowings</li> </ol>

**Surplus-** Net income derived from the total income (sources of income) minus total expenditure (expenses). Out of the Surplus of RBI, risk provisioning is made for monetary and financial stability risks, and credit and operational Risks.

**Transfer of Surplus-** RBI transfers its surplus to the government as per Section 47 of the Reserve Bank of India Act, 1934.

The surplus calculation is based on the **Economic Capital Framework (ECF)** recommended by the **Bimal Jalan committee**. The committee advised the RBI to maintain a **Contingent Risk Buffer (CRB)** between **5.5% and 6.5%** of its balance sheet.

[Read More- Economic Capital Framework](#)

### What are the reasons behind Increase in RBI surplus?

- 1. High profits from US treasury Bonds-** According to data from the US Department of the Treasury, as of March 31, 2024, the **RBI has invested \$240.6 billion in US Treasuries**. The **high yields on these bonds**, due to monetary policy tightening, have **resulted in substantial interest income for the RBI** from foreign assets.
- 2. Surge in Forex Holdings of RBI-** The sharp jump in the surplus amount can also be attributed to higher income from the forex holdings of the central bank. **For ex-** In FY24, the **RBI's foreign exchange (forex) reserves surged by \$68 billion**, which is the highest in five years.
- 3. Higher earnings from interest-** The shifting of domestic liquidity into **deficit mode has contributed to the central bank's higher income**. When liquidity enters deficit, the RBI lends to banks, earning interest.
- 4. Increase in Gold Prices-** The increase in the price of gold has also **added to the overall expansion** of the RBI balance sheet.
- 5. Intervention in forex market-** RBI's intervention in the forex market has contributed to the higher incomes. **For ex-** **RBI sold securities worth \$153 bn in the forex market in FY 24.**

### What is the significance of the record RBI Surplus transfer to the Government?

The record RBI surplus transfer of Rs. 2.11 lakh crore has provided fiscal boost to the government. This surplus is significant for the following reasons

- 1. Increased Capital Expenditure (CAPEX)-** The surplus transfer provides much needed fiscal stimulus to the government to increase its allocations to roads, railways, and defence projects.
- 2. Reduced borrowing and Fiscal Consolidation-** The stimulus transfer provides the government with a **fiscal space of 0.3% of GDP**. This would help in reducing the borrowing and maintaining fiscal discipline. It would ensure fiscal deficit reduction remains in sync with the committed glide path of 4.5% by FY26.
- 3. Boost to Bond markets-** The government has **raised hopes among the bond traders**, as it would lead to correction in the yield of government securities.
- 4. Meeting the revenue shortfall-** The latest dividend payout from the RBI will be instrumental in **compensating for any slippages in tax revenue**.
- 5. Covering the disinvestment target-** The Govt has set an ambitious divestment target of ₹50,000 crore for FY25. It is about 67% higher than the revised target for FY24. However, the govt has missed the target for the past few years. The **surplus provides a safety revenue cover to the government** in case of any potential miss this year.

### What Should be the Way Forward?

- 1. Absorption of excessive liquidity-** RBI must absorb the excessive liquidity generated by the surplus transfer by undertaking **open market operation sales and foreign exchange interventions**.



**2. Increasing Govt tax-GDP Ratio-** The government **must not constantly depend upon transfers from the central bank or dividend from public-sector enterprises**. Proper fiscal management must be undertaken to **increase the government's tax-to-GDP ratio**.

**3. Rationalisation of GST rates-** The government must immediately initiate work on rationalising the rates and slabs of GST in the GST Council to increase government's tax revenues.

**4. Disinvestment in public sector-** The government must aim to fast track the disinvestment plan of the public sector to meet any revenue shortfall in future.

The immediate effect of the RBI transfer will be to simplify the fiscal maths for the Ministry of Finance. However, the longer-term priorities of the RBI will remain the same.

**Read More-** [The Indian Express](#)

**UPSC Syllabus- GS 3-** Indian Economy

### International Criminal Court- Functioning and achievements

Recently, an application was presented to a **pre-trial chamber** of the International Criminal Court (ICC) to issue arrest warrants against **five individuals** linked to the **conflict in Gaza**. The five individuals are- **Israeli Prime Minister Benjamin Netanyahu, Israeli Defence Minister Yoav Gallant, and three Hamas leaders** Yahya Sinwar, Mohammed Diab Ibrahim Al-Masri (Deif) and Ismail Haniyeh. The arrest warrants were sought on the charges of war crimes and crimes against humanity over the October 7 attack on Israel and the subsequent war in Gaza.

ICC over the years has been instrumental in legally redressing grave international crimes. However, it suffers from serious challenges in the effective implementation of its verdicts.



Figure 5. Source- The Atlantic

**What is the International Criminal Court? What is the jurisdiction of ICC?**

The International Criminal Court (ICC) was established by the **Rome Statute 1998**. It is headquartered in Netherland. It is built on the **legal legacies and jurisprudence of international courts** concluded before it such as the ad hoc United Nations tribunals for

Rwanda and the former Yugoslavia.

**Aim-** To ensure legal redress for grave international crimes including genocide, war crimes, and crimes against humanity.

**Jurisdiction-** The Rome Statute grants the **ICC jurisdiction** over four main crimes-

**a. Crime of Genocide-** Acts committed with intent to destroy a national, ethnic, racial or religious group.

**b. Crimes against Humanity-** A large-scale attack against any civilian population.

**c. War crimes-** These are grave breaches of the Geneva conventions in the context of armed conflict.

**d. Crime of Aggression-** It is the use of armed force of a State against the sovereignty, integrity or independence of another State.

**Relationship with the UN-** ICC is an Independent organisation. It is not governed by U.N. It **can receive referrals from UNSC**. However, it **can also initiate prosecution without UN action**.

**Funding-** **Voluntary contributions** from the U.N; voluntary contributions from governments, international organizations, individuals, corporations and other entities.

### What is the significance of ICC?

**1. Global court of last resort for human rights violations-** ICC serves as the global court of last resort for four types of gross human rights violations- **genocide, crimes against humanity, war crimes** and **crimes of aggression**. It investigates and prosecute these crimes when states are unwilling or unable to do so at the national level.

**2. Accountability for Atrocity-** The Rome Statute has made **accountability for atrocity crimes an integral aspect of the rule of law**. This ensures that perpetrators of grave crimes are held accountable by national courts or the ICC.

**3. Global Reach and Impact-** The ratification by 123 States of the Rome Statute, demonstrates a **broad international commitment** to international justice.

**4. Emphasis on Victim's rights-** The ICC places a strong emphasis on the position of victims. ICC also supports them through court-ordered reparations and victim assistance programs. **For ex-** Creation of **Trust Fund** for Helping the victims financially.

### What have been the achievements of International Criminal Court?

**1. Institution of criminal proceedings against head of state-** Under International Law, the heads of state are immune from criminal proceedings at any foreign or international court . However, such immunity is not available for the head of states at the International criminal court. **For ex-** **Issue of arrest warrant against Putin in 2023 for his role in Russia's war with Ukraine**.

**2. Exercise of territorial jurisdiction-** ICC exercises territorial jurisdiction to serve justice. This means that if a **crime is committed on the territory of a state party to the ICC**, the **Court can exercise jurisdiction on that crime**, even if it is committed by people belonging to a state that isn't its member. This has been applied in **instituting war crime cases against Russia and Israel**, which are not its members.

**3. Convictions in cases of War Crimes-** ICC has now heard 31 cases of genocides and convicted 10 people. First ICC conviction came in March 2012, when **Thomas Lubanga Dyilo** was found **guilty of war crimes** for using child soldiers in **conflict in the Democratic Republic of the Congo**.

**4. Growing Deterrent Effect-** The presence of International Criminal Court has shown signs of a growing deterrent effect. Some African States have cited the **risk of prosecution by the ICC** as a **crucial factor in preventing large-scale violence** surrounding elections.

**Read More-** [International Criminal Court issues arrest warrant against Vladimir Putin](#)

### What are the Challenges with the Functioning of International Criminal Court?

**1. Weak track record of prosecution-** The ICC's track record in prosecuting the heads of states has not been encouraging. There is a long road from requesting an arrest warrant to actual prosecution. **For ex-** Even though the **arrest warrant** was issued against the former **Sudanese President, Omar al-Bashir in 2009**, the leader has been not been persecuted.

**2. Dropping of charges-** There have been several cases where the charges of war crimes have been dropped by the ICC, **even after the issuance of arrest warrant**. **For ex-** Simone Gbagbo the former first lady of the Ivory Coast, was initially issued an arrest warrant. However, the ICC dropped the charges later.

**3. Selective targeting of Third World leaders-** The ICC has also been criticised for selective targeting leaders of the third world leaders, and not Western powers and their allies.

**4. Lack of effective cooperation with the security council-** ICC also faces the challenge of lack of effective cooperation from the UN security council to discharge the mandate of the Security Council resolutions. **For ex-** **Lack of effective support by the UNSC for the release of the detained ICC staff on an official mission to Libya.**

**5. Lack of Funding support-** The **Rome Statute** and the **relationship agreement between the ICC and the UN** anticipate that the UN shall help fund the costly investigations and prosecutions of UN Security Council referrals. However, the **resolutions like Sudan and Libya resolutions** which **prohibit UN funds from helping the ICC**, add to the financial challenges of the ICC.

**6. Pull-out of member states-** The pull-out of member states like **Burundi in 2017** and the **Philippines in 2019**, have domino effect on other member states to pull out. This weakens the credibility of the ICC as an organisation.

**7. Non-universality of Rome statute-** The ICC's membership is far from universal. 70 of 193 UN member states are not ICC members. Prominent countries such as **China, India and Saudi Arabia have never signed the Rome Statute**. Also, three of the five permanent members of the UN Security Council – China, Russia and the USA, seek to shield themselves from the Court's jurisdiction.

**8. Political Interference-** Several member states have been **accused of attempts at political interference in the ICC's governing body** and **in the election of judges** and the ICC's Prosecutor.

### What Should be the Way Forward?

**1. Universal ratification of Rome Statute-** Non-ICC member states should be **nudged to ratify the Rome Statute**. Civil society should push for universal ratification and the strengthening of the ICC.

**2. Member states to ensure smooth functioning-** ICC member states should commit to **financially strengthen** the International Criminal Court and refrain from political interference.

**3. Neutrality-** The ICC in its functioning must display political neutrality and unbiasedness. **For ex-** The **institution of cases both against the Israel and Hamas leaders** strengthen the credibility of ICC as an organisation.

**4. Providing the necessary manpower-** ICC **does not have its own police force or enforcement body**. It relies on cooperation with countries worldwide for support. Adequate manpower must be provided to the ICC for it to effectively discharge its duty.

**Read More-** [The Hindu](#)

**UPSC Syllabus- GS 2- International Organisations**

### Urban Fire Safety in India- Explained Pointwise

The recent cases of fire outbreak in **Rajkot's Game Zone** and the short circuit-induced blast of oxygen cylinders in a **paediatric hospital in Vivek Vihar in New Delhi** has drawn our attention to the ignored issue of Urban Fire Safety In India. In densely packed urban areas of India, devastating urban fires have emerged as one of the most predominant risks to human lives and properties.



Figure 6. Source- Business Standard

**What is Urban Fire? What is the status of Urban Fires in India?**

**Urban Fire-** Urban fire refer to fires occurring in urban areas, such as cities and towns, which are densely populated and have a high concentration of buildings, infrastructure, and human activity.

India has witnessed many tragic urban fire incidents in the recent past. **For ex- Uphar cinema, New Delhi (1997); Kamala Mills, Mumbai (2017) and Taxila Coaching Centre, Surat (2019).**

#### Status of Urban Fires in India

1. According to National Crime Records Bureau (NCRB) data 2019, India witnessed **330 deaths in commercial building fires** and **6,329 fatalities in residential or dwelling building fires**.
2. In 2015, NCRB reported **death of 17,700 Indians** died due to fire accidents. **Maharashtra and Gujarat** accounted for a significant portion (about 30%) of the country's fire-related deaths.
3. The India Risk Surveys 2018 has placed **India at 3rd position in fire incidents**. This signifies the **grave risks of fire incidents** to urban habitats.

#### Common causes of Fires in India

- 1. Fault in electrical equipment-** Loose wires, overloaded plugs, old equipment and highly inflammable Polyurethane foam (PUF) used for plastic insulation have contributed to the increase in urban fire accidents in the country.
- 2. Human errors-** Human errors such as placing liquid near electrical equipment, burning food in the kitchen or spilling flammable liquids have also led to urban fires in India.
- 3. Lack of awareness among people-** The lack of knowledge training for the persons to operate the installed firefighting equipments in the building premises.

#### What are the provisions regulating Urban Fires in India?

<b>Fire service Regulation</b>	Fire service falls under the 12th schedule of the Indian Constitution dealing with Municipal functions. At present, fire prevention and fire fighting services are organized by the concerned States and Union Territories (UTs), and Urban Local Bodies (ULBs)
<b>National Building Code (NBC) of India, 2016</b>	NBC is a recommendatory document published by the Bureau of Indian Standards. It mainly contains administrative regulations, general building requirements such as fire safety requirements, structural design and construction (including safety) provisions. State governments are expected to incorporate the provisions of the code into their local building by laws.
<b>Model Building Bye Laws, 2003</b>	Under Modern Building Bye Laws 2003, fire clearance is the responsibility of the Chief Fire Officer at each point. The concerned Development Authority must provide the building plans to the Chief Fire Officer for clearance purposes.
<b>National Disaster Management Authority (NDMA) Guidelines</b>	These guidelines stipulate fire safety requirements for public buildings. These include hospitals along with design guidelines relating to maintaining a minimum level of open space, exit mechanisms, stairs and evacuation drills.

#### What are the issues with Urban Fire management in India?

- 1. Non-adherence to NBC code-** The National Building Code (NBC) has set out elaborate guidelines including those for fire safety. However, the adherence to these codes have been lacklustre in India. For ex- Lack of separate fire escape staircases in Old Buildings and lack of fire safety audits.
- 2. Poor adoption of Model Fire Safety Bill-** Many states have failed to adopt the provisions of the Model Fire Safety Bill 2019, drafted by the Central Govt for maintenance of fire and emergency services of a state.
- 3. Resource crunch in fire fighting operations-** Fire safety operations in urban India are generally under the jurisdiction of the municipal corporations in the big cities. The fire fighting operations are financially, infrastructurally and technologically starved of resources. For ex- India had only 39% of the 8,559 fire stations needed in 2018.
- 4. Laxity on part of the regulatory bodies-** The municipal corporation, civic development authorities and planning control commissions have been lax in the effective implementation of fire safety regulations.
- 5. Lack of robust fire mitigation technologies-** Most of the modern Buildings in major cities lack sufficient in-built fire safety services such as smoke alarms and sprinkler systems. These systems operate as early warning systems and fire control measures.

#### What is the Way Forward?

- 1. Enactment of a Fire Act in every state-** The states which **have not enacted their own Fire Act** should immediately enact a **suitable Fire Act** based on the 2019 model bill.
- 2. Following Fire Safety Standards-** The Home Ministry must make sure that National Disaster Management Guidelines on Scaling, Type of Equipment and Training of Fire Services are duly followed by the States.
- 3. Regular Auditing-** There should be **time-bound fire and electric audits** of all hospitals within the municipal area. Moreover, the government has to conduct third-party fire safety audits throughout the urban areas.
- 4. Mock Drills-** The fire services must **conduct regular fire safety drills** so that people are aware of what to do in the event of such a tragedy.
- 5. Awareness Generation-** A significant emphasis needs to be placed on creating awareness among **different stakeholders** like citizens, administrators, politicians, builders, engineers, regarding the importance of fire safety management.
- 6. Infrastructure and Technology-** Adoption of modern technology such as **water mist** and **drones** and simple interventions like **constructing water storage tanks** at suitable locations can help in effective fire fighting.
- 7. Financial support to the fire safety department-** The government should provide financial support and assistance in augmenting and modernizing the fire departments. **For ex-** Urban govt can **impose a fire tax/levy** and **incorporate PPP partnership** in fire management.
- 8. Abiding by the laid down rules-** All buildings in the city must abide by the **model building by laws** that safeguard aspects of livability, safety and sustainability of its users.

**Read More-** [The Indian Express](#)

**UPSC Syllabus- GS 3** Disaster Management

### **[Yojana May 2024 Summary] Indian Handloom Sector- Opportunities and Challenges- Explained Pointwise**

The Indian Handloom sector stands as a testament to the country's rich heritage and artistic prowess. The Indian handloom sector is the second largest generator of employment in India's unorganized sector after agriculture. It serves as a **vital source of livelihood** for over **three million artisans** across the country. However, the Indian Handloom sector also suffers from challenges, which has hampered its exponential growth and development.



Source- Yojana

### What is the Indian Handloom Sector? What are the various types of Indian handlooms?

The handloom sector has a rich history in India dating back to the **Indus Valley civilization (3300-1300 BCE)**. It is not just a way of **creating textiles**, but also a deep-rooted cultural tradition that has been passed down through generations.

**Each state in India has its unique handloom production.** There are more than 136 unique weaving styles found all across the country, each with its own distinct design, technique, and cultural significance.

These weaves are often named after the **regions where they originated** and are known for their **intricate patterns, vibrant colors**, and **the use of natural fibers like cotton, silk, and wool**. Some famous handloom products are mentioned below-

<b>Gujarat</b>	Mashru Weaving, Dhabla Shawl Weaving, Kharad Weaving, Tancoi Silk Weave, Tangaliya Weave, Patola weave, Pachedi Weave, Kachchh Shawls Kutch Weaving.
<b>Uttar Pradesh</b>	Kimkhab Weave, bhadohi carpets, Mirzapur Handmade Dari, Agra durries, Jamdani weaves, Naqsha brocade weaving .
<b>Karnataka</b>	Ilkal Weave, Molkalmuru Silk Weave, Patteda anchu sari weave, Navalgund Durries, Mysore Silk Weave, udupi sarees
<b>Arunachal Pradesh</b>	Singpho Weaving, Pailibo Weaving, Mishmi weaving, Tuensung shawls, Apatani Tsug-dul and Tsug- gdan
<b>Maharashtra</b>	Himru Weave, Paithani Weave, Ghongadi Weave, Chindi Dhurries, Karvath Kathi Sari Weaving

### What is the significance of Indian Handloom Sector?

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The Indian handloom sector offers numerous benefits. Some of the advantages of the Indian Handloom Sector are mentioned below-

**1. Employment Generation-** The handloom industry is the **second largest employment generator** after agriculture in India. It employs millions of people which includes a **substantial percentage** from marginalized communities like **SC, ST, and OBC**.

**2. Driver of Indian export-** Indian handloom products have **significant demand in over 20 countries worldwide**, particularly in developed countries and the Middle East. Indian handloom product exports have maintained a robust performance, exceeding USD 300 million annually from 2016-17 to 2019-20.



Figure 7. Source-Yojana

**3. Cultural Heritage Preservation-** The Indian Handloom sector plays a crucial role in **preserving and promoting traditional craftsmanship** and skills passed down through generations.

**4. Environmental Sustainability-** Handloom products are eco-friendly and sustainable, as they are made from **organic materials without the use of chemicals or synthetic dyes**. The sector's **low power consumption** and **minimal environmental impact** make it an environmentally conscious choice for consumers.

#### What are the challenges with Indian Handloom Sector?

**1. Competition from mass-produced textiles-** Traditional Indian weaves face tough domestic and international competition from **cheaper, mass-produced textiles**.

**2. Lack of infrastructure-** The handloom sector lacks adequate infrastructure, such as **reliable power supply, transportation facilities, and access to modern equipment**. This hinders their productivity and efficiency.

**3. Dwindling interest among the younger generation-** Younger generations are less interested in pursuing traditional weaving practices. This has led to a **decline in skilled artisans** and it threatens the continuity of these crafts.

**4. Low Economic viability-** Weaving communities **struggle with low wages** and **inconsistent income**. This makes it difficult for them to **sustain livelihoods** and invest in modernization.



**5. Access to markets-** Limited access to domestic and international markets, **restricts the reach of Indian weaves**. This limits their opportunities for growth and profitability.

**6. Sustainability concerns-** Environmental issues such as **water usage, chemical pollution**, and **unsustainable farming practices** pose challenges to the sustainability of Indian weaving.

**7. Increased Growth of Power looms-** The power loom industry, **supported by subsidies and misrepresented products such as handloom**, poses a significant challenge to the handloom sector.

#### What are the Govt Initiatives for Indian Handloom industry?

<b>National Development (NHDP)</b>	<b>Handloom Programme</b>	It is a central sector plan scheme for the <b>integrated and comprehensive development of handlooms</b> and welfare of handloom weavers. It focuses on establishing <b>handloom clusters at the block level</b> to help weaving groups become self-sustainable
<b>Handloom Mark Scheme</b>		It aims to <b>brand handloom products</b> and secure a premium position for them in domestic and export markets. It provides a <b>collective identity to handloom products</b> and assures buyers about the genuineness of the product.
<b>Yarn Supply Scheme</b>		It is implemented by the <b>National Handloom Development Corporation (NHDC)</b> and state governments. It ensures regular and adequate supply of quality yarn at reasonable prices to handloom weavers.
<b>Comprehensive Cluster Development Scheme (CHCDS)</b>	<b>Handloom</b>	It Aims to develop <b>mega handloom clusters</b> with at least 15,000 looms each. Provides <b>need-based funding</b> for interventions like technology advancement, product development, common facility centers, marketing complexes, and yarn depots.
<b>Handloom Comprehensive Scheme (HWCWS)</b>	<b>Weavers' Welfare</b>	The scheme provides life and accidental insurance cover to handloom weavers aged <b>18-50 years</b> . It offers benefits like <b>Rs. 2 lakhs on death</b> due to any reason and <b>Rs. 2 lakhs for total and permanent disability</b> .

#### What Should be the Way Forward?

**1. Improving Access to Raw Materials and Credit-** We must aim to facilitate easy access to credit facilities for weavers by **simplifying loan procedures** and **encouraging financial institutions** to support the sector.

**2. Enhancing Design and Innovation-** We must **encourage collaborations between weavers and design institutes** to develop new designs and products.

**3. Strengthening Marketing and Branding-** We must expand e-commerce platforms to provide new markets and customers for handloom weavers.

**4. Providing Institutional Support-** We must Implement schemes like the **National Handloom Development Programme** and **Comprehensive Handloom Cluster Development Scheme** to provide need-based assistance to weavers.

Read More- [Invest India](#)

UPSC Syllabus- GS 3- Indian Economy

## [Kurukshetra May 2024 Summary] Green Technologies- Explained Pointwise

Green technologies are being promoted by various stakeholders to combat the huge impact of green house gas emissions, depletion of natural resources and the continuously increasing global warming levels. All the International conferences and meetings being held for environment sustainability, have placed huge importance and thrust on green technologies.



Figure 8. Source- Kurukshetra

### What is Green Technology? What are the key areas of its adoption?

**Green Technology-** It is the creation and application of **products, systems, and frameworks** that aim to protect the natural environment and its properties by mitigating and reducing the negative consequences of human activities. Green technologies broadly encompass innovations focused on **environmental enhancement and resource efficiency**.

**Cleantech vs Greentech-** Cleantech aims to improve the **environmental performance of existing technologies**. However, Greentech promotes the adoption of **new, sustainable solutions** and encourages the use of **renewable resources**.

**Examples of Green Technology-** They range from renewable energy solutions like **solar and wind power** to **advanced waste**

**management solutions** and **eco-friendly materials**.

### Key Areas of Green Technology Adoption

<b>Renewable Energy</b>	Green technology is being adopted in the <b>solar, wind, hydroelectric, geothermal, and biomass sector</b> . Renewable energy sources offer alternatives to fossil fuels, reduce greenhouse gas emissions and dependence on finite resources.
<b>Energy Efficiency</b>	<b>Advancements in insulation, LED lighting, smart thermostats, and energy-efficient appliances</b> to reduce energy consumption.
<b>Green Building</b>	Green building technologies <b>promote sustainable design, construction, and operation of buildings</b> . This involves <b>incorporating energy-efficient materials, passive design strategies, green roofs, and efficient HVAC systems</b> to minimize environmental impact and enhance occupant comfort.
<b>Sustainable Transportation</b>	<b>Electric vehicles (EVs), hybrid vehicles, public transit systems, cycling infrastructure, and alternative fuels</b> are the green technologies being used in the field of sustainable transportation.
<b>Agroecology and Sustainable Agriculture</b>	Green technology promotes sustainable agricultural practices that minimize environmental impact and enhance productivity. This includes

	organic farming, precision agriculture, agroforestry, and soil conservation techniques.
<b>Water Conservation and Treatment</b>	Low-flow fixtures, rainwater harvesting systems, wastewater treatment technologies, and desalination are the green technologies being adopted in the field of water conservation and treatment.

### What are the advantages of green technologies?

- 1. Economic advantages-** Green technologies **open new markets** and **create jobs**. These technologies **foster business innovation**, **enable companies to develop new products** and **services** that meet growing consumer demand for sustainability. **For ex-** **Creation of new jobs** in the **circular economy**.
- 2. Environmental-** Green technologies **significantly reduce carbon emissions** contributing to the fight against climate change and environmental degradation. **For ex-** These Technologies help in **assessing environmental quality**, **tracking pollution levels**, and **making informed decision regarding resource management** and **conservation**.
- 3. Social-** It also helps in improving the quality of life by providing **clean air and water**, **reducing the risk of environmental health problems**, and **promoting a healthier environment**. **For ex-** Nullifying the negative effects of climate change on the quality of human life.
- 4. Reduced Energy Consumption-** Green energy technologies such as **solar panels**, **hydropower**, and **wind turbines**, have significantly reduced our reliance on non-renewable energy sources like fossil fuels.

### What are government schemes promoting green technologies in India?

<b>National Green Hydrogen Mission</b>	This Mission aims at adoption of Green Hydrogen which will lead to <b>significant decarbonization of the economy</b> . It will also help India to <b>assume market leadership</b> in Green Hydrogen. It will support the <b>development of supply chains</b> that can help in efficient transportation and distribution of green hydrogen.
<b>Subsidy Schemes for Biomass Utilization</b>	The government offers subsidies to promote the use of <b>biomass-based power plants</b> , <b>biomass cogeneration projects</b> , and <b>biomass gasifiers</b> .
<b>National Innovations in Climate Resilient Agriculture (NICRA)</b>	This flagship program focuses on <b>developing technologies</b> that are resilient to <b>mitigate the impact of climate change on agriculture</b> , such as <b>cultivating resilient crop varieties</b> , <b>implementing intercropping systems</b> , and <b>promoting organic farming</b> .
<b>Green Credit Scheme</b>	The Green Credit Scheme aims to <b>encourage behavioral change</b> and <b>incentivize environmental and ecosystem services</b> across different sectors. It incentivizes sustainability and climate action in areas such as <b>forest and ecosystem services</b> , <b>waste management</b> , <b>air and water quality improvement</b> .

### What are the Challenges in the adoption of green technologies?

- 1. High Upfront Initial Costs-** Many green technologies, such as **renewable energy systems** and **energy-efficient appliances**, have **higher upfront costs** compared to conventional alternatives. **For ex-** 50% of the project costs for each megawatt of solar PV power plant installation in India will lead to an outflow of foreign exchange.
- 2. Limited Access to Capital-** Green technology entrepreneurs face challenges in **accessing financing** and **capital for their projects**. The banks and financial institutions are also **hesitant to provide loans** for innovative and perceived high-risk projects.

**3. Technological Barriers-** Some of these technologies are in the early stages of development and face technological limitations. For ex- **Intermittent energy production for renewables** or **energy storage capacity for electric vehicles**.

**4. Infrastructural Limitations-** Inadequate infrastructure, such as lack of **charging stations for electric vehicles** or lack of availability of **grid interconnections for renewable energy systems**, often limits the scalability and adoption of these technologies.

**5. Regulatory and Policy Constraints-** **Inadequate and uncertain regulatory requirements** and **compliance** often deter investment and innovation in the sector of green technologies.

**6. Lack of Public Awareness and Education-** Limited awareness and understanding of green technologies among the general public, businesses, and policymakers have hindered their adoption.

**Read More-** [India could use green technologies to galvanise its faltering economy](#)

#### What should be the Way Forward?

**1. Financial Incentives-** Financial incentives such as **tax credits, grants, subsidies**, and **low interest loans** to support green technology adoption can help offset the higher upfront costs.

**2. Regulatory Measures-** The regulatory criteria must be streamlined to enable **setting renewable energy targets, energy efficiency standards for buildings and appliances, emissions reduction requirements for vehicles**, and **renewable portfolio standards for utilities**.

**3. Research and Development Funding-** Investment in R&D can drive **technological advancements, reduce costs**, and **improve the performance and scalability of green solutions**.

**4. Capacity Building and Technical Assistance-** Capacity building support and technical assistance like **training programs, feasibility studies**, and **knowledge sharing platforms** will help businesses, communities, and governments navigate the challenges of adopting and implementing these projects

**5. Public Procurement Policies-** Government procurement policies to **prioritize the purchase of green products and services** can create market demand for sustainable goods and services, driving innovation and lowering costs through economies of scale.

**Read More-** [Investopedia](#)

**UPSC Syllabus- GS 3 Environmental Conservation**

### The Tobacco Epidemic in India- Explained Pointwise

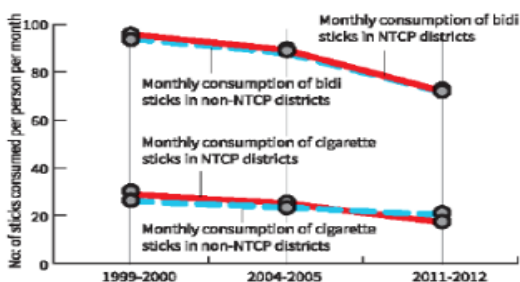
On the Occasion of **World No Tobacco Day**, it is pertinent for us to delve deeper into the case of Tobacco Epidemic in India. Through the World No Tobacco Day, **WHO aims to raise awareness about the health risks** of tobacco use. It also advocates for stringent measures to protect public health, especially among youth.

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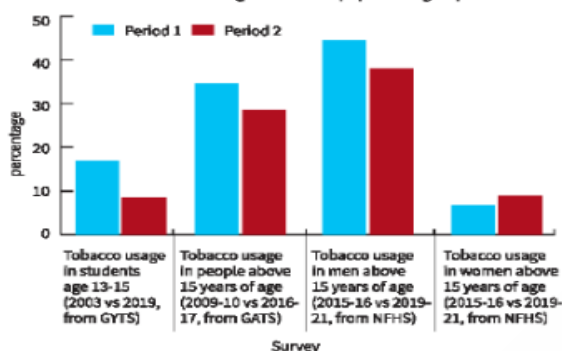
## To go up in smoke

Nearly 26 crore Indians are tobacco consumers, according to an estimate in 2016-2017. While usage and consumption has been going down, effective tobacco control is still a pipe dream

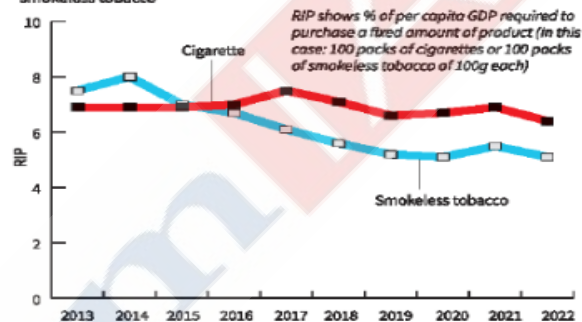
**Chart 1:** Comparison of monthly consumption of bidi and cigarettes between National Tobacco Control Program (NTCP) districts and non-NTCP districts



**Chart 2:** Trends in tobacco usage in different population groups



**Chart 3:** Trends in Relative Income Price (RIP) for cigarettes and smokeless tobacco



Source: Nazari, G.P. et al, 2020 doi:10.1134/tobaccocontrol-2018-064621, Health Taxes in India, The World Bank

Source- The Hindu

### What is the status of Tobacco epidemic in India?

1. After China, India has the world's highest number of tobacco consumers. There are nearly 26 crore tobacco users in India according to an estimate in 2016-17.
2. The Global Adult Tobacco Survey and India's National Family Health Survey capture the status of tobacco usage in people above 15 years of age. The Global Youth Tobacco Survey (GYTS) assesses tobacco use in students between the ages of 13 and 15 years of age. According to all these surveys, the usage of tobacco is increasing in India.
3. India has the largest number of Smokeless Tobacco users in the world. India accounts for 66% of world's smokeless tobacco users.

### What are the negative impacts of tobacco epidemic in India?

1. **Deleterious Impact on Human Health-** Tobacco usage causes a wide range of life threatening diseases like cancer. As per WHO, tobacco use is a major cause of death and disease in India. It is responsible for an estimated 1.35 million deaths annually.
2. **Health risk to employees engaged in Tobacco Industry-** The health of more than 60 lakh people employed in the tobacco industry is placed at risk because of the absorption of tobacco through the skin. This causes various diseases.
3. **Economic Loss-** India incurred a loss exceeding ₹1.7 lakh crore as a result of tobacco's effects on the health of its consumers in the fiscal year 2017-2018, due to a 2021 study. This loss is ~3 times as compared to Union health budget of ~Rs. 48,000 crore.

**4. Deterioration of Soil Quality-** Tobacco crop is a **highly erosive crop** that rapidly depletes soil nutrients. The cultivation of tobacco crop **requires more fertilizer usage** which further worsens soil quality.

**5. Deforestation-** The tobacco plant is a major contributor to deforestation in India. **For ex- ~ 5.4 kg of wood** is required to process **1 kg of tobacco**.

**6. Waste Generation-** The production and consumption of tobacco generates **~1.7 lakh tonnes of waste every year** in India. Cleaning up tobacco waste has been estimated to **cost ~ ₹6,367 crore a year**.

**7. Social Impact-** Tobacco smoking **violates non-smokers right to clean air** and **undermines health of non-smokers**. It also **affects household welfare** as the **expenses incurred in tobacco use substitute the basic needs of food and education** among disadvantaged population.

### What are the Govt Schemes and initiatives for Tobacco Control in India?

**1. Cigarettes Act 1975-** The Act is largely limited to statutory warnings like '**Cigarette Smoking is Injurious to Health**' to be displayed on cigarette packs and advertisements. However, it did not include non-cigarettes.

**2. The Cigarettes and Other Tobacco Products (Prohibition of Advertisement and Regulation of Trade and Commerce, Production, Supply, and Distribution) Act (COTPA) 2003-** The act contains 33 sections governing the **production, advertisement, distribution, and consumption of tobacco** in India.

**3. WHO's framework convention on Tobacco Control-** India is **one of the 168 signatories of the WHO's Framework Convention on Tobacco Control (FCTC)**. It was launched in 2005. It aims to reduce tobacco usage worldwide by helping countries develop demand and supply reduction strategies.

**4. Food Safety and Standards Act 2006-** Government of India has issued **regulations under the Food Safety and Standards Act 2006** which lay down that tobacco or nicotine cannot be used as ingredients in food products.

**5. Cable Television Networks Amendment Act of 2000-** It prohibited the **transmission of advertisements** on tobacco and liquor in India.

**6. Prevention and Control of Pollution Act of 1981-** The Act recognized **smoking as an air pollutant**.

**7. The Motor Vehicles Act 1988-** It made **smoking illegal in public vehicle**.

**8. National Tobacco Control Programme (NTCP), 2008-** The objective of the programme was to control **tobacco consumption** and **minimize tobacco consumption** related deaths. The activities include- training and capacity building, information, education, and communication (IEC) activities; reporting survey and surveillance and tobacco cessation.

**9. Tobacco Cessation-** The program **provides targeted support** to help people overcome the **personal challenge of maintaining efforts** to quit tobacco use. **Tobacco cessation clinics** have been set up across the country as part of the program.

**10. Tobacco Taxation-** According to **WHO Report on the Global Tobacco Epidemic 2017**, cigarette taxes in India are amongst the highest in the world. Cigarettes are subjected to high and discriminatory rates of taxation, as compared to other tobacco products. **As of 2014-15 Government collected 87% of its total tobacco revenue** from legal cigarettes

### What are the Challenges with Tobacco Control Programmes in India?

**1. Ineffective Regulatory coverage-** **Smokeless tobacco products (SLTs)** have predominantly been **non-compliant with COTPA packaging guidelines**. Smuggled tobacco products- in both smoked and smokeless forms- have been badly regulated in India.

**2. Outdated provisions in the COPTA-** The fines for violation of COTPA regulations have not been updated since 2003. **For ex- First time violation fine of ₹5,000** for violation of packaging restrictions.

**3. Unclear Guidelines on surrogate and indirect advertisements-** These have been used to **sell proxy products like Elaichi**. This has to indirect promotion of the sale of tobacco manufactured by the same brand. **For ex-** The **ICC Men's Cricket World Cup 2023** displayed **surrogate advertisements** for **at least two tobacco brands** which indirectly promoted tobacco use.

**4. Ineffective implementation of NTCP-** A 2018 study there has been **no significant difference in the reduction of bidi or cigarette** consumption between **NTCP and non-NTCP districts**. National Tobacco Control Programme (NTCP) suffers from **insufficient staffing, insufficient resource allocation and utilization, and lack of effective monitoring mechanisms**.

**5. Tax evasion-** Indian government's efforts to levy excise duty on tobacco have been marred by tax evasion practices, such as by **purchasing tobacco products in lower tax jurisdictions**, and illegal methods such as **smuggling, illicit manufacturing, and counterfeiting**.

**6. Increasing affordability of tobacco products-** Low tobacco taxes in India, have not matched the rise in people's income, and have kept tobacco affordable over the years. **For ex-** A 2021 study in BMJ Tobacco Control reported that **cigarettes, bidis, and SLTs have become more affordable in the preceding 10 years**. The transitioning to the Goods and Services Tax regime has rendered cigarettes and SLTs more affordable.

**7. Govt interference in tobacco Industry-** India's score on the tobacco interference index- **which calculates the degree of interference by the tobacco industry in governance**- has also worsened since 2021. **For ex-** Government officials, both in-service and retired, engage with the tobacco industry. A retired **Indian Administrative Services** officer joined the board of **Godfrey Phillips as an independent director in 2022**. Moreover, the **Central government holds a 7.8% stake in ITC Ltd.**, India's largest tobacco company.

#### What Should be the Way Forward?

**1. Effective regulations on surrogate advertisements-** The COPTA must be updated to **include regulations on surrogate advertisements, inclusion of films and video games in the definition of 'advertisement'** and **increasing the fines for violation of advertisement norms by a factor of 10**.

**2. Increasing tax on tobacco products in line with FCTC recommendation-** Tax burden which is 51% for cigarettes, 22% for bidis, and 64% for SLTs. They must be **increased to FCTC's recommendation of 75% tax**.

**3. Effective implementation of Prohibition of Electronic Cigarette Act (PECA), 2019-** The PECA must be strictly implemented. We must continue to strive to strengthen the governance framework, reduce the corruption levels and increasing the effectiveness of customs and tax administration.

**4. Helping tobacco farmers switch to farming alternate crops-** According to study conducted by the **Central Tobacco Research Institute**, helping tobacco farmers switch to alternate crops will help in avoiding loss of livelihood. **For Large-scale tobacco farmers, the net return per rupee of investment in jowar cultivation (1.84) is higher than tobacco (1.48)**.

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