

Examine the major sources of environmental pollution and degradation in India. Discuss how existing legal frameworks address these challenges.

Question Understanding - Finding Information

- **Precise Syllabus Mapping:** Environmental Pollution and degradation. (GS Paper – III)
- **Marks and words limit:**
 - The marks-oriented approach to answering **(10-mark, 150-word)** questions in the question is to use **Bullet Points** (one idea per bullet point), **Brainstorming**, or a combination of both.
 - The way to score good marks in questions worth **(15 marks. 250 words)** is to use the **Heading** and **Subheading** method while writing your answers.
- **Directive words:**
 - Examine → Identify and explain key sources with reasoning
 - Discuss → Explain how laws respond, with scope and limitations
- **Focal points of the questions:**
 - Role of environmental conservation in India's development
 - Current challenges weakening conservation efforts

- **Regulatory and Institutional Mechanisms**
 - Pollution control authorities
 - Standards, monitoring and penalties

- **Judicial Interventions**
 - Environmental jurisprudence
 - Polluter pays and precautionary principles

- **Strengths and Limitations**
 - Comprehensive legal coverage
 - Challenges in enforcement, compliance and capacity

➤ ***Dos & Don'ts: Avoid technical legal sections; focus on functionality.***

Conclusion (max. 40 Words)

- Synthesize information

Dos & Don'ts

- **Do for Maximum Marks**

- ✓ Use Key terms: Environmental governance, Polluter pays principle, Sustainable development
- ✓ You can use Diagram idea: Pollution sources → Legal response → Outcomes (flowchart)
- ✓ Categorise pollution sources logically
- ✓ Link environmental degradation to development activities
- ✓ Explain how laws address problems, not just name them
- ✓ Maintain analytical and neutral tone
- ✓ Highlight enforcement and institutional issues

- **Don't do these Common Mistakes**

- ✗ Do not list Acts without explanation
- ✗ Avoid moralistic or activist language
- ✗ Do not overload with case laws
- ✗ Avoid turning it into a GS-II governance answer
- ✗ Don't ignore informal and rural pollution sources

Notes Oriented Content for Writing Answer

Environmental pollution and degradation in India are multifaceted challenges driven by rapid industrialization, urbanization, and agricultural intensification. While a robust legal framework exists, its effectiveness is often hampered by implementation gaps and emerging crises.

Major Sources of Environmental Pollution and Degradation

- **Air Pollution (Industrial & Vehicular):** Rapid urbanization has led to a spike in automobile use and industrial activity. **Example:** Delhi consistently ranks among the world's most polluted cities due to a combination of vehicular emissions and industrial waste.
- **Agricultural Practices:** The burning of crop residue (stubble burning) and the overuse of chemical fertilizers significantly degrade air and soil quality. **Example:** Stubble burning in Punjab and Haryana creates hazardous winter smog in the Indo-Gangetic Plain.
- **Water Pollution (Untreated Sewage & Effluents):** Direct dumping of untreated domestic sewage and industrial toxic waste into rivers. **Example:** The Yamuna River in Delhi is often covered in toxic foam due to high levels of industrial effluents.
- **Waste Mismanagement:** India generates roughly 62 million tonnes of municipal solid waste annually, with only a small fraction being scientifically processed. **Example:** The Ghazipur landfill in Delhi reached a height of 65 meters (213 feet) by 2019, posing severe environmental and health risks.
- **Land Degradation & Deforestation:** Infrastructure projects and mining lead to large-scale habitat loss and soil erosion. **Example:** Extensive coastal sand mining along Indian coasts threatens marine ecosystems.

Existing Legal Frameworks Addressing the Challenges

India has a comprehensive "umbrella" legislative structure, primarily evolved after the 1972 Stockholm Conference.

| Act/Framework | Focus & Mechanisms |
|--|--|
| Water Act (1974) | Established the Central and State Pollution Control Boards (CPCB/SPCBs) to set and enforce water quality standards. |
| Air Act (1981) | Empowers boards to designate air pollution control areas and enforce emission limits for industries and vehicles. |
| Environment Protection Act (1986) | An umbrella legislation giving the Central Government sweeping powers to regulate hazardous substances and set general environmental standards. |
| Wildlife Protection Act (1972) | Provides legal protection for endangered species and regulates trade in wildlife products. |
| Forest (Conservation) Act (1980) | Restricts the diversion of forest land for non-forest purposes without central approval to prevent deforestation. |
| National Green Tribunal (NGT) Act (2010) | Created a specialized judicial body for the expeditious disposal of environmental cases (targeting a 6-month resolution). |

Challenges in the Legal Response

Despite these laws, several systemic issues persist as of 2026:

- **Implementation Deficit:** There is a significant gap between "theoretical laws" and practical ground-level enforcement due to a lack of resources and technical expertise in Pollution Control Boards.

- **Weak Penalty Structure:** Fines are often seen as "costs of doing business" rather than effective deterrents.
- **Institutional Coordination:** Overlapping jurisdictions between national and state bodies often lead to delayed action and fragmented efforts.
- **Emerging Pollutants:** Existing frameworks are still catching up with modern challenges like E-waste and microplastics.
- **Climate Transition:** New global regulations, such as the EU's Carbon Border Adjustment Mechanism (CBAM) effective in 2026, place additional pressure on India's carbon-intensive sectors.

In conclusion, India's environmental challenges are significant, stemming from its development trajectory. While the legal framework is robust on paper, its actual impact is often a result of active judicial intervention to bridge the gap between law and practice.
