

DAILY MAINS ANSWER WRITING

24/06/2024

(MODEL ANSWER)

- Q. "Discuss the critical environmental challenges faced by India in the context of sustainable development highlighting government policies to counter the same. Examine the multifaceted dimensions of these challenges and suggest measures for effective mitigation."

15

Answer Template:

Introduction:

- **Environmental sustainability** is integral to India's development agenda as it balances economic growth with the conservation of natural resources and the well-being of its citizens. However, India faces significant environmental challenges that threaten its ecological balance, public health, and socio-economic stability.
- According to reports, India's forest cover per capita is among the lowest globally, with only 28 trees per person compared to 8953 in Canada and 130 in China.
- Urban centres like Delhi and Mumbai suffer from severe air pollution, while water scarcity plagues cities like Bengaluru and Delhi, where inadequate sewage treatment compounds environmental issues.

Body:

- **Challenges:**
 - **Air Pollution and Urban Environmental Degradation:**
 - Indian cities, particularly Delhi and Mumbai, face severe air pollution issues, primarily due to industrial emissions, vehicular exhaust, and construction activities.
 - *Example: Delhi's Air Quality Index (AQI) often reaches hazardous levels during winter months, impacting millions of residents.*
 - Government Initiative: The **National Clean Air Programme (NCAP)** aims to reduce particulate matter (PM) levels by 20-30% in targeted cities by 2024.
 - **Water Scarcity and Pollution:**
 - Rapid urbanization and industrialization have led to significant water pollution in rivers like the Ganga and Yamuna, affecting drinking water quality and aquatic ecosystems.
 - *Example: The Ganga Action Plan and Namami Gange initiative focus on cleaning and conserving the Ganga River through sewage treatment plants and awareness campaigns.*
 - Government Initiative: **Jal Jeevan Mission** aims to provide piped water supply to all rural households by 2024, promoting sustainable water use.

- Deforestation and Loss of Biodiversity:
 - Deforestation for agriculture, urbanization, and infrastructure projects has reduced India's forest cover and biodiversity.
 - *Example: The **Western Ghats**, a biodiversity hotspot, faces habitat loss due to developmental activities.*
 - Government Initiative: **Compensatory Afforestation Fund Management and Planning Authority (CAMPA)** facilitates afforestation and conservation activities.
- Climate Change Impacts:
 - Changing climate patterns affect agriculture productivity, exacerbate water scarcity, and increase the frequency of extreme weather events like cyclones and floods.
 - *Example: **Kerala floods** in 2018 and **cyclone Amphan** in 2020 highlighted vulnerabilities to climate change impacts.*
 - Government Initiative: India's **Nationally Determined Contributions (NDCs)** under the **Paris Agreement** include targets to reduce greenhouse gas emissions intensity and increase renewable energy capacity.
- Waste Management and Pollution Control:
 - Inadequate waste management practices contribute to environmental pollution, especially in urban areas.
 - *Example: **Plastic waste pollution** in oceans and landfills poses threats to marine life and human health.*
 - Government Initiative: **Swachh Bharat Mission** promotes waste segregation, recycling, and sustainable waste management practices.
- **Measures for Effective Mitigation:**
 - Enhanced Environmental Governance:
 - Strengthening regulatory frameworks and enforcing environmental laws to ensure compliance and accountability.
 - *Example: **Environmental Impact Assessments (EIAs)** for major projects to assess environmental impacts and ensure sustainable development.*
 - Promotion of Renewable Energy:
 - Scaling up renewable energy sources such as solar, wind, and hydroelectric power to reduce dependency on fossil fuels.
 - *Example: **National Solar Mission** aims to achieve 100 GW of solar power capacity by 2022.*
 - Sustainable Agriculture Practices:
 - Promoting organic farming, water-efficient irrigation techniques, and crop diversification to enhance resilience to climate change and reduce environmental impacts.
 - *Example: **Paramparagat Krishi Vikas Yojana (PKVY)** supports organic farming practices among small and marginal farmers.*
 - Community Participation and Awareness:

- Educating communities about sustainable practices, biodiversity conservation, and the importance of environmental stewardship.
 - *Example: Eco-clubs in schools promote environmental awareness among students and encourage conservation activities.*
- Integrated Water Resource Management:
 - Implementing watershed management programs, rainwater harvesting, and efficient water use practices to address water scarcity and pollution.
 - *Example: Atal Bhujal Yojana focuses on sustainable groundwater management in identified water-stressed areas.*
- Ecosystem Restoration and Conservation:
 - Rehabilitating degraded ecosystems, conserving natural habitats, and protecting endangered species.
 - *Example: Project Tiger and Project Elephant aim to conserve India's national animal and iconic species through habitat restoration and protection measures.*
- Research and Innovation in Environmental Technologies:
 - Investing in research and development of green technologies for pollution control, waste management, and sustainable urban planning.
 - *Example: National Mission on Strategic Knowledge for Climate Change promotes climate research and innovation.*
- International Collaboration and Partnerships:
 - Collaborating with global stakeholders on climate change adaptation, technology transfer, and capacity building.
 - *Example: International Solar Alliance facilitates cooperation among solar-rich countries for promoting solar energy.*
- Inclusive and Sustainable Urban Development:
 - Integrating environmental considerations into urban planning, promoting green buildings, and enhancing urban resilience to climate change impacts.
 - *Example: Smart Cities Mission promotes sustainable urban development with a focus on environmental sustainability and quality of life improvements.*

Conclusion

- Addressing India's environmental challenges requires concerted efforts across sectors, involving government, civil society, and private stakeholders.
- The Paris Agreement commitments and India's Nationally Determined Contributions (NDCs) underscore the country's commitment to climate action.
- By implementing sustainable practices, enhancing regulatory frameworks, promoting renewable energy, and fostering community participation, India can mitigate environmental risks while achieving inclusive and sustainable development goals.