India’s Initiatives On Environmental Issues: Preparing For Future

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Abstract

India is facing major environmental challenges, including air and water pollution, deforestation, and climate change. To address these issues, the Indian government has implemented several initiatives to promote sustainable development and protect the environment. These initiatives aim to promote the use of clean energy sources, improve the efficiency of energy use, reduce greenhouse gas emissions, protect forests and wildlife, and improve the management of waste and water resources.

One significant initiative is the implementation of the National Action Plan on Climate Change (NAPCC), which lays out a comprehensive strategy for reducing India's carbon footprint and mitigating the impacts of climate change. This plan includes the promotion of renewable energy, energy efficiency, and sustainable agriculture and forestry practices. The Indian government has also launched the National Solar Mission, which aims to increase the share of solar energy in India's total energy mix.

Additionally, the government has taken steps to protect and conserve India's forests, wildlife, and biodiversity. This includes the creation of protected areas, the promotion of eco-tourism, and the implementation of conservation and sustainable management practices. The government has also implemented policies and programs to improve waste management and reduce plastic pollution, such as the Swachh Bharat Abhiyan (Clean India Mission) and the ban on single-use plastics.

Keywords:- NAPCC, Renewable Energy, sustainable agriculture, Swachh Bharat Abhiyan
OBJECTIVES

1. To evaluate the effectiveness of current environmental policies and programs in addressing India's environmental challenges, including air and water pollution, deforestation, and climate change.

2. To identify the challenges and obstacles to implementing environmental initiatives and recommend strategies for overcoming these challenges.

Database and Methodology:- Present study is based on mainly secondary data. It’s focused on the environmental initiatives of India.

Introduction:- India is facing a multitude of environmental issues that threaten the health and wellbeing of its citizens and the sustainability of its resources. Air and water pollution, deforestation, and climate change are some of the major environmental challenges that India faces today. To address these issues, the Indian government has implemented several initiatives to promote sustainable development and protect the environment. These initiatives aim to prepare India for the future by promoting the use of clean energy sources, improving the efficiency of energy use, reducing greenhouse gas emissions, protecting forests and wildlife, and improving the management of waste and water resources.

One significant initiative is the implementation of the National Action Plan on Climate Change (NAPCC), which lays out a comprehensive strategy for reducing India's carbon footprint and mitigating the impacts of climate change. This plan includes the promotion of renewable energy, energy efficiency, and sustainable agriculture and forestry practices. The Indian government has also launched the National Solar Mission, which aims to increase the share of solar energy in India’s total energy mix. This initiative aims to promote the use of clean energy and reduce India's dependence on fossil fuels, which contribute significantly to air pollution and greenhouse gas emissions.

Another important initiative is the government's efforts to protect and conserve India's forests, wildlife, and biodiversity. This includes the creation of protected areas, the promotion of eco-tourism, and the implementation of conservation and sustainable management practices. The government has also taken steps to improve the management of India's waste, including the implementation of the Swachh Bharat Abhiyan (Clean India Mission) and the ban on single-use plastics. These initiatives aim to reduce plastic pollution and improve waste management, which is critical for protecting the environment and preserving the country's natural resources.

In addition to these initiatives, the Indian government has also taken steps to improve the management of water resources, such as the implementation of the National Water Policy. This policy aims to improve the efficiency of water use, reduce water pollution, and ensure access to clean water for all citizens. The government has also launched several programs to improve the quality of air in cities and towns, including the National Clean Energy Fund and the National Air Quality Index.

Environmental issues in India:-

India is home to a diverse range of environmental issues, which have a significant impact on its people and ecosystems. Some of the major environmental issues in India are:

- Air Pollution: India has some of the most polluted cities in the world, with high levels of particulate matter and other pollutants affecting the health of its citizens.
- Water Pollution: Water pollution is a major problem in India, with many rivers and lakes contaminated by industrial waste, sewage, and other pollutants.
- Deforestation: India has lost a significant amount of its forest cover over the years, leading to soil erosion, loss of wildlife habitat, and other environmental problems.
- Land Degradation: Land degradation is a major environmental issue in India, with soil erosion, desertification, and other forms of land degradation affecting millions of people.
Climate Change: India is highly vulnerable to the impacts of climate change, with rising temperatures, changing rainfall patterns, and more frequent extreme weather events posing significant risks to its people and ecosystems.

Biodiversity Loss: India is home to a rich diversity of plant and animal species, but this biodiversity is under threat due to habitat destruction, poaching, and other human activities.

Waste Management: India generates a large amount of waste, but has inadequate systems for managing and disposing of it safely, leading to environmental and health hazards.

These are just a few of the many environmental issues facing India, and they highlight the urgent need for action to protect the country's natural resources and ecosystems.

**Government initiatives:**

The Government of India has implemented various initiatives to address environmental issues in the country. The Ministry of Environment, Forest and Climate Change (formerly known as MOEF) is the nodal agency of the Government of India responsible for formulating and implementing policies and programs related to the environment and forests in India. Some of these government initiatives are:

- **Swachh Bharat Abhiyan**: This is a nationwide campaign launched in 2014 to clean up the streets, roads, and infrastructure of Indian cities and rural areas. The initiative aims to achieve a clean and open defecation-free India by October 2, 2019, the 150th birth anniversary of Mahatma Gandhi.

- **National Clean Energy Fund**: The fund was set up in 2010 to promote clean energy development and reduce greenhouse gas emissions. The government has used the fund to support renewable energy projects, energy efficiency initiatives, and research and development in clean energy technologies.

- **National Air Quality Index**: The index was launched in 2014 to monitor and measure the quality of air in major Indian cities. It provides real-time information on the levels of pollutants in the air and has helped to raise public awareness about air pollution.

- **National Biodiversity Act**: The act was passed in 2002 to conserve India's rich biodiversity and ensure sustainable use of its natural resources. It mandates the creation of a National Biodiversity Authority and State Biodiversity Boards to regulate access to biological resources and traditional knowledge associated with them.

- **National Mission for a Green India**: The mission was launched in 2014 to increase India's forest cover and improve the quality of existing forests. It aims to increase the country's forest cover by 5 million hectares and improve the quality of an additional 5 million hectares of degraded forest land.
National River Conservation Plan: The plan was launched in 2014 to conserve and rejuvenate major rivers in India. The initiative aims to reduce pollution levels in the rivers, improve water quality, and restore the ecological health of river ecosystems.

National Action Plan on Climate Change (NAPCC): MOEF launched the NAPCC in 2008 to address the challenges of climate change and promote sustainable development. The plan includes eight national missions on various sectors like solar power, energy efficiency, sustainable habitat, and water conservation.

These initiatives demonstrate the government's commitment to addressing environmental issues in India, but more needs to be done to achieve sustainable development and protect the country's natural resources. However, it's worth noting that some of these initiatives have faced challenges in implementation and achieving their goals due to various factors like inadequate resources, lack of public awareness, and other socio-economic factors.

Environmental regulations in India :-

India has several environmental regulations in place to address the country's environmental issues. Some of the key regulations are:

- The Air (Prevention and Control of Pollution) Act, 1981: This act aims to prevent, control, and abate air pollution in India by regulating emissions from industries and vehicles.

- The Water (Prevention and Control of Pollution) Act, 1974: This act aims to prevent, control, and abate water pollution in India by regulating the discharge of pollutants into water bodies.

- The National Green Tribunal Act, 2010: This act establishes the National Green Tribunal, a specialized court for environmental disputes, and gives it the power to hear and dispose of cases related to environmental protection and conservation.

- The Environment (Protection) Act, 1986: This act provides for the protection and improvement of the environment, and the prevention of hazards to human beings, other living creatures, plants, and property.

- The Forest (Conservation) Act, 1980: This act regulates the diversion of forest land for non-forestry purposes and provides for the conservation of forests and wildlife.

- The Wildlife Protection Act, 1972: This act provides for the protection of wild animals and plants and regulates hunting, trapping, and trade in wildlife.

- The Hazardous and Other Wastes (Management and Transboundary Movement) Rules, 2016: These rules provide for the management of hazardous and other wastes and regulate their transboundary movement.

These regulations are enforced by various government agencies, including the Ministry of Environment, Forest and Climate Change, State Pollution Control Boards, and the National Green Tribunal.
Effectiveness of environmental regulations in India:

The effectiveness of environmental regulations in India is a complex issue, as it depends on several factors, including the implementation and enforcement of the regulations, the availability of resources, and the willingness of stakeholders to comply with the regulations.

The Green India Mission (GIM) is a national program launched by the Government of India in 2014 with the objective of increasing the country's forest cover and improving the quality of existing forests. Here are some key facts and figures related to the Green India Mission:

**Objectives:** The main objectives of the GIM are to increase forest cover, improve ecosystem services such as carbon sequestration and water regulation, and enhance the livelihoods of forest-dependent communities.

**Targets:** The GIM aims to increase India's forest cover by 5 million hectares and improve the quality of an additional 5 million hectares of degraded forest land by 2030.

**Budget:** The government has allocated significant funds for the GIM. The total budget for the program from 2014-2020 was around INR 4,000 crore ($550 million USD).

**Projects:** The GIM includes various projects such as afforestation, forest conservation, soil and moisture conservation, wildlife conservation, and ecotourism.

**Progress:** According to the India State of Forest Report 2019, India's forest cover increased by 3,976 square kilometers between 2017 and 2019, and the country's tree and forest cover increased by 1% since 2015. This progress is attributed to the GIM and other government initiatives.

**Challenges:** Despite the progress, there are still some challenges that need to be addressed. These include encroachment on forest land, forest fires, and inadequate funding for forest conservation.

Swachh Bharat Abhiyan or the Clean India Mission is a national campaign launched by the Government of India in 2014 with the aim of making India clean and free of open defecation. Here are some key facts and figures related to Swachh Bharat Abhiyan:

**Objectives:** The main objective of Swachh Bharat Abhiyan is to create a clean and hygienic India, free from open defecation, litter, and waste.

**Budget:** The government has allocated significant funds for Swachh Bharat Abhiyan. The total budget for the program from 2014-2021 was around INR 62,009 crore ($8.5 billion USD).

**Components:** The campaign has two key components: Swachh Bharat Abhiyan (Clean India Mission) and Swachh Vidyalaya (Clean School Campaign).

**Progress:** According to the Swachh Bharat Mission (SBM) dashboard, as of February 2022, 100% of India's rural areas and 99.9% of India's urban areas had been declared open defecation free. Over 110 million toilets have been constructed under the campaign, and more than 700,000 villages and 7,500 cities/towns have been declared ODF.
Challenges: Despite the progress, there are still some challenges that need to be addressed. These include the need for sustained behavior change, effective solid waste management, and the promotion of sustainable sanitation practices.

The National River Conservation Plan (NRCP) is a centrally sponsored scheme of the Government of India launched in 1985 to improve the water quality of rivers in the country. Here are some of the latest updates on the NRCP:

Budget: The government has allocated a total of INR 7,000 crore ($940 million USD) for the NRCP for the period 2017-2020.

Implementation: As of February 2022, the NRCP has been implemented in 41 polluted stretches of 34 rivers in 14 states across India.

Projects: The NRCP includes various projects such as sewage treatment plants, common effluent treatment plants, riverfront development, and river surface cleaning.

Progress: According to the Ministry of Jal Shakti, as of February 2022, a total of 136 sewage treatment plants with a total capacity of 5,102 million liters per day (MLD) have been commissioned under the NRCP. In addition, 35 common effluent treatment plants with a total capacity of 256 MLD have been commissioned. The ministry also reports that there has been an improvement in the water quality of several rivers under the NRCP.

Impact: The NRCP has had a significant impact on the water quality of rivers in India. According to the Central Pollution Control Board, the percentage of river stretches meeting the water quality criteria of the National River Conservation Plan has increased from 33% in 2014 to 62% in 2020.

Challenges: Despite the progress, there are still some challenges that need to be addressed. These include the need for effective operation and maintenance of the infrastructure created under the NRCP, as well as the need for greater public participation in the conservation of rivers.

The National Action Plan on Climate Change (NAPCC) was launched in 2008 to address the challenges of climate change in India. The effectiveness of the plan in achieving its objectives has been mixed.

Budget: The budget allocation for the implementation of the NAPCC has been increasing over the years. In the 2021-22 budget, the allocation for the Ministry of Environment, Forest and Climate Change (MoEFCC), which is responsible for implementing the NAPCC, was INR 3,100 crore (~USD 418 million). However, some experts argue that the budget allocation is insufficient to achieve the ambitious targets set by the plan.

Implementation: The implementation of the various missions under the NAPCC has been slow and uneven. While some missions, such as the National Solar Mission, have made significant progress, others, such as the National Water Mission, have faced implementation challenges. The implementation of the missions requires coordination among various ministries and stakeholders, which has been a challenge.
Progress: Some of the missions under the NAPCC have made significant progress. For example, the National Solar Mission has achieved a cumulative installed capacity of 39.2 GW as of December 2021, exceeding its target of 20 GW by 2022. The National Mission for Enhanced Energy Efficiency has also made progress in improving energy efficiency in various sectors, with savings of 182.38 million tonnes of CO2 equivalent achieved between 2012-13 and 2019-20.

Challenges: The implementation of the NAPCC faces several challenges, including insufficient budget allocation, lack of coordination among stakeholders, inadequate institutional capacity, and limited public awareness. The missions related to sustainable agriculture and sustainable habitat have faced challenges due to the complex and diverse nature of the sectors.

Projects: Under the NAPCC, several projects have been initiated, such as the Green India Mission, which aims to increase the forest cover and promote afforestation and reforestation efforts. The Sustainable Agriculture Mission has initiated projects such as the National Innovations in Climate Resilient Agriculture (NICRA) to promote climate-resilient agriculture practices. The National Mission for Enhanced Energy Efficiency has initiated projects such as the Perform, Achieve and Trade (PAT) scheme to improve energy efficiency in energy-intensive industries.

The National Biodiversity Act, 2002 is an important legislation in India aimed at conservation, sustainable use, and equitable sharing of benefits derived from the country's biodiversity. The effectiveness of the act in achieving its objectives has been mixed.

Budget: The budget allocation for the implementation of the National Biodiversity Act, 2002 is limited. In the 2021-22 budget, the allocation for the Ministry of Environment, Forest and Climate Change (MoEFCC), which is responsible for implementing the act, was INR 2,931 crore (~USD 394 million), which includes funding for biodiversity conservation and management. However, experts argue that the budget allocation is insufficient to achieve the ambitious targets set by the act.

Implementation: The implementation of the National Biodiversity Act, 2002 has been slow and uneven. While some states have made progress in forming Biodiversity Management Committees (BMCs) and preparing People's Biodiversity Registers (PBRs), others have lagged behind. The implementation of Access and Benefit-Sharing (ABS) provisions has also been limited, with challenges in enforcing the regulations.

Progress: Some progress has been made in identifying and conserving Biodiversity Heritage Sites (BHS) and in increasing public awareness on biodiversity conservation. The formation of BMCs and preparation of PBRs has also made progress in some states.

Challenges: The implementation of the National Biodiversity Act, 2002 faces several challenges, including inadequate budget allocation, lack of institutional capacity, and limited public awareness. There have also been challenges in enforcing ABS provisions and in coordinating among stakeholders.

Projects: The National Biodiversity Act, 2002 has led to the initiation of several projects, such as the Biodiversity Conservation and Rural Livelihood Improvement Project (BCRLIP) aimed at promoting conservation and sustainable use of biodiversity resources.
The Integrated Coastal Zone Management (ICZM) project also aims to conserve and manage coastal biodiversity.

In recent years, India has made progress in addressing some of its environmental issues through stricter regulations and enforcement. For example, the introduction of cleaner fuel standards for vehicles and restrictions on the use of coal in thermal power plants have helped reduce air pollution in some areas. The ban on single-use plastics in several states and the introduction of Extended Producer Responsibility (EPR) regulations for managing e-waste are other examples of effective regulations.

However, there are also challenges to effective regulation in India. One of the biggest challenges is the lack of resources, including trained personnel and adequate funding, to enforce regulations effectively. Corruption and political influence are also factors that can undermine the effectiveness of environmental regulations in some cases.

Overall, while India's environmental regulations have had some successes, there is still much work to be done to address the country's environmental issues effectively. Ongoing efforts to improve enforcement, build capacity, and strengthen stakeholder engagement will be essential to achieving long-term success.

**Conclusion**

India is making significant efforts to address its environmental challenges and promote sustainable development. These initiatives are critical in preparing India for the future and ensuring a healthy and prosperous future for its citizens. However, the success of these initiatives depends on the active involvement and support of all stakeholders, including citizens, businesses, and civil society. Public awareness about environmental problems has been created to some extent by several agencies—government, pollution control boards, academic and research institutions, NGOs and media. A synergistic collaboration between all these stakeholders alone can prevent further damage to the fragile environment. Public awareness is perhaps the strongest bulk work against exploitation and degradation of the environment. After all environment is of the people, for the people and by the people.

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