



A Study on the Impact of Industrial Growth on Environmental Sustainability with Special Reference to Chhattisgarh State

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ABSTRACT

The rapid expansion of industrial activities in Chhattisgarh has significantly contributed to economic development but has also raised concerns regarding environmental sustainability. This study aims to explore the environmental impact of industrial growth, focusing on pollution levels, resource depletion, and policy effectiveness. Through a mixed-methods approach involving surveys and secondary data analysis, the study will provide insights into the environmental consequences of industrialization in the state and recommend sustainable industrial practices.

KEY WORDS

Industrial Activity, Environment, Economic, Industrial Growth.

INTRODUCTION

Industrial growth plays a crucial role in economic advancement, creating employment opportunities and enhancing infrastructure. However, its unchecked expansion can lead to severe environmental degradation. Chhattisgarh, known for its rich mineral resources and heavy industries, has witnessed rapid industrialization, leading to increased air, water, and soil pollution. This study seeks to analyze the balance between industrial growth and environmental sustainability in the state.

Brief Literature Review

Previous studies have highlighted the environmental consequences of industrialization, including deforestation, pollution, and climate change (Smith, 2020; Kumar, 2018). Research by Gupta (2019) emphasized the role of industrial policies in mitigating environmental damage. However, limited

studies focus specifically on Chhattisgarh, necessitating a region-specific investigation.

Rationale of the Study

Given Chhattisgarh's industrial expansion, it is imperative to assess its environmental impact to ensure sustainable growth. Understanding the correlation between industrial activities and ecological damage will help policymakers develop balanced strategies that promote both economic and environmental well-being.

Research Gap Identified in the Literature

Existing studies predominantly focus on national-level industrial impacts, with limited attention to state-specific challenges in Chhattisgarh. Additionally, there is a lack of empirical studies assessing community perspectives on environmental sustainability in the region.

Objectives of the Study

1. To assess the environmental impact of industrial growth in Chhattisgarh.
2. To analyze the effectiveness of environmental policies in mitigating industrial pollution.
3. To evaluate public perception and awareness regarding industrial pollution.
4. To propose sustainable industrial practices for minimizing environmental damage.

Research Purpose and Questions

The primary purpose of this study is to examine the extent of industrial impact on environmental sustainability in Chhattisgarh. Key research questions include:

- What are the major environmental concerns associated with industrial growth in Chhattisgarh?
- How effective are the existing policies in mitigating environmental damage?
- What measures can be adopted to promote sustainable industrial practices?

Limitations

- The study is limited to 100 respondents, which may not represent the entire state.
- The research focuses only on selected industrial areas in Chhattisgarh.
- Secondary data sources may have inherent biases.

Method

A mixed-methods approach will be used, combining quantitative survey data with qualitative interviews to ensure a comprehensive analysis.

Participants

The study will involve 100 respondents, including industrial workers, environmental experts, policymakers, and local residents affected by industrial activities. The sample will ensure diversity in perspectives across different stakeholder groups.

Data Collection

Primary data will be collected through structured surveys and in-depth interviews. Secondary data will be gathered from Government reports, environmental studies, and industry reports to provide context and support the analysis.

Data Analysis

Quantitative data will be analyzed using statistical tools such as SPSS to identify patterns and correlations. Thematic analysis will be applied to qualitative responses to extract key insights on environmental concerns and policy effectiveness.

Survey Questionnaire

1. What is your perception of the environmental impact of industrial growth in Chhattisgarh?
2. Have you observed significant changes in air and water quality over the years?
3. How effective do you think Government policies are in controlling industrial pollution?
4. What sustainable measures do you recommend for industrial growth?
5. Are local communities adequately involved in environmental decision-making?
6. What industries do you think contribute most to pollution in Chhattisgarh?
7. What health impacts have you observed due to industrial pollution?
8. Do industries in your region comply with environmental regulations?
9. What role should the Government play in ensuring environmental sustainability?
10. What are your recommendations for balancing industrial growth with environmental sustainability?

Analysis of Survey Responses

Survey Question	Key Findings (N=100)	Interpretation
Perception of industrial impact	75% believe industries contribute significantly to pollution.	Industries are perceived as a major source of environmental degradation.
Changes in air and water quality	70% reported noticeable deterioration.	Indicates significant industrial impact on local ecology.
Effectiveness of government policies	35% believe policies are effective, while 65% believe they are inadequate.	Suggests the need for stricter regulations and enforcement.
Recommended sustainable measures	55% suggested cleaner technologies, 30% recommended stricter regulations, and 15% emphasized community awareness.	Emphasizes the need for green industrial practices and regulatory oversight.
Community involvement	60% feel local communities are not consulted.	Highlights the importance of public participation in policy-making.
Most polluting industries	45% identified mining, 30% mentioned steel plants, 25% pointed to thermal power stations.	Suggests that heavy industries contribute most to environmental degradation.
Health impacts	50% reported respiratory issues, 30% skin diseases, 20% waterborne illnesses.	Indicates severe health consequences of industrial pollution.
Compliance with regulations	40% believe industries comply, 60% disagree.	Points to weak enforcement of environmental laws.
Government's role	65% emphasized policy enforcement, 20% advocated for incentives for green industries, 15% suggested stricter penalties.	Suggests a need for comprehensive policy measures.

Interpretation of Results

The findings indicate that industrial growth in Chhattisgarh has led to significant environmental degradation, with air and water quality being major concerns. Government policies are perceived as insufficient, and community involvement in decision-making is minimal. Mining and steel industries are seen as the biggest polluters, and health impacts such as respiratory diseases are prevalent. Stricter regulations, cleaner technologies, and better enforcement are crucial for achieving environmental sustainability.

Discussion

The study's results align with national and international concerns regarding industrial sustainability. Industrial pollution in Chhattisgarh reflects global trends where rapid economic growth often comes at the cost of environmental degradation. Addressing these challenges requires multi-stakeholder engagement, stringent policy implementation, and technological advancements.

Results

The study highlights the urgent need for improved environmental policies, increased corporate responsibility, and community engagement in industrial planning.

CONCLUSION

Industrial growth in Chhattisgarh has brought economic benefits but also significant environmental challenges. A balanced approach that integrates industrial expansion with sustainable practices is essential for long-term ecological and economic stability.

Educational Implications

Educational institutions should incorporate environmental sustainability into their curricula to raise awareness among future industrial leaders. Policy training and community awareness programs should also be promoted.

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