EVALUATING THE IMPACT OF WATER AND WASTE MANAGEMENT POLICIES ON SUSTAINABLE DEVELOPMENT: A CASE STUDY OF NOIDA, UTTAR PRADESH

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ABSTRACT

This study evaluates the impact of water and waste management policies on sustainable development in Noida, Uttar Pradesh. Rapid urbanization has increased pressure on natural resources, particularly water and waste systems. Using a descriptive research design, the study combines primary data from 100 respondents with secondary data from policy documents. The findings indicate that awareness levels are moderate to high, but inconsistencies in implementation and service delivery limit effectiveness. A strong relationship is observed between awareness and participation. The study concludes that sustainable development requires integrated governance, technological support, and active citizen participation.

Keywords: Sustainable development; water management; waste management; urban governance; public participation; Noida

Introduction

Rapid urbanization in India has led to significant environmental challenges, particularly in water scarcity and waste management. Cities like Noida are experiencing increased demand for resources due to population growth and infrastructure expansion. Sustainable development requires efficient environmental policies supported by effective municipal governance and citizen participation. Despite the existence of policies such as the National Water Policy and Solid Waste Management Rules, implementation gaps remain a major concern. This study evaluates the effectiveness of these policies at the city level by analyzing awareness, participation, and sustainability outcomes in Noida.

Methodology

The study adopts a descriptive research design. Primary data was collected through a

structured questionnaire distributed to 100 residents of Noida. The questionnaire included sections on demographics, awareness, participation, and perception of policy effectiveness. Secondary data was collected from government reports and environmental policy documents. Data analysis was conducted using percentage analysis and interpretation methods to identify patterns and relationships between variables.

Results

The analysis indicates that a majority of respondents are aware of water conservation and waste management policies. Participation in practices such as waste segregation and water conservation is moderate but not consistent across all demographic groups. Municipal waste collection services are generally perceived as effective, though issues such as irregular service and lack of strict enforcement persist. Hypothesis testing reveals a

significant positive relationship between awareness and participation, indicating that informed citizens are more likely to adopt sustainable practices.

Discussion

The findings highlight the importance of governance and citizen behaviour in determining policy effectiveness. While policies exist, their success depends on implementation and public cooperation. The study aligns with sustainability theories emphasizing institutional capacity and behavioural change. Enhancing awareness campaigns, improving infrastructure, and leveraging technology can strengthen policy outcomes.

Conclusion

The study concludes that water and waste management policies contribute to sustainable development but face implementation challenges. Strengthening municipal governance, improving service delivery, and promoting citizen participation are essential. Future research can expand the scope to other cities and include comparative analysis.

References

Mensah (2019); Sachs et al. (2020); UN-Habitat (2022); Government of India (2019); OECD (2021); World Bank (2023); Gupta & Arora (2019); Joshi & Ahmed (2020).