Air Quality Analysis Before and After the Implementation of Traffic Restrictions in Jakarta

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Abstract

Air pollution remains a critical environmental issue in Jakarta, primarily driven by emissions from motor vehicles. In response, the Jakarta Provincial Government introduced an odd-even traffic restriction policy to reduce vehicular emissions and improve air quality. This study aims to evaluate changes in air quality before and after the implementation of the policy, focusing on key indicators such as PM2.5, NO_2, and CO levels. Using a comparative quantitative approach, the research analyzes secondary data collected from air quality monitoring agencies, including BMKG and IQAir, over the period of 2021–2023. The findings reveal a notable decrease in PM2.5 concentrations by 15–25% and NO_2 levels by 10–18% during restricted traffic hours. However, CO levels did not show significant variation. The results suggest that while the odd-even system offers short-term improvements in air quality, it must be complemented with long-term, sustainable urban transport strategies to achieve lasting environmental benefits.

Keywords: air pollution, air quality, traffic restrictions