



Air Pollution in Urban Lagos: Sources, Impacts, and Control Measures

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Abstract

Urban air pollution in Lagos, Nigeria is a significant environmental challenge affecting public health and urban development. A multi-source data collection approach was employed using satellite imagery, ground-based monitoring stations, and public reports. A statistical model was applied to analyse pollutant concentrations over time. Air pollution levels in urban Lagos were found to be higher than national standards for particulate matter (PM_{2.5}) at 19% above the recommended limit. Urban air quality management strategies, including enhanced emission controls and public awareness campaigns, are urgently needed to mitigate adverse health effects. Implement stricter emissions regulations, promote cleaner energy sources, and enhance monitoring infrastructure for effective pollution control in Lagos. The empirical specification follows $Y = \beta_{0+\beta} p X + \text{varepsilon}$, and inference is reported with uncertainty-aware statistical criteria.

Keywords: *Geographical, Sub-Saharan, Urbanization, Emissions, Mitigation, Dispersion, Modelling*

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