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

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Abstract

Air pollution in urban areas of Lagos, a megacity in Nigeria, has significant impacts on public health and environmental quality. A multi-source data collection approach was employed, including satellite imagery for detecting sources and surveys on public health outcomes. Satellite analysis revealed a substantial increase in particulate matter concentrations over urban areas during the study period, with an average annual rise of 5%. Control measures, particularly those related to vehicle emissions and industrial pollution control, showed mixed effectiveness in reducing pollutant levels. Enhanced monitoring systems and stricter enforcement of existing regulations are recommended for improved air quality management. The empirical specification follows $Y = \beta_{0+\beta}^{\rightarrow} p\, X + varepsilon$, and inference is reported with uncertainty-aware statistical criteria.

Keywords: *Urbanization, Lagos, Nigeria, Atmospheric Chemistry, Emissions Inventory, Air Quality Modelling, Greenhouse Gases, Public Health Impacts*

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