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Mapping sources of Air Pollution and identification of vulnerable populations in the Cape Coast Metropolis

BACKGROUND
Addressing the health burden from air pollution exposure in low/middle-income countries requires air quality monitoring. However, many African countries lack the resources for comprehensive monitoring. This study aimed to map air pollution sources in the Cape Coast metropolis, to gain insights into the major sources and inform control policies in the metropolitan area.
METHODS: Ground-level visual identification of air pollution sources were identified in three high-pollution areas in Cape Coast: Abura, Kingsway, and Science UCC. The geographic locations of the air pollution hotspots were recorded using the Ghana Postal Service GPS, and local populations exposed to air pollution were also identified.
RESULTS: We found the major source of air pollution across the three sites to be vehicular traffic. Not surprising as these sites are the commercial hub of the metropolis. Biomass burning for commercial cooking and fish smoking was another major source of air pollution in two of the sites; Abura and Kingsway. Biomass fuel and garbage burning in households in the area were also significant contributors of air pollution in all three sites. Street vendors, market women and commuters were identified as the most affected population in the study areas.

CONCLUSION: The main sources of air pollution in the Cape Coast metropolis are vehicular traffic from polluting fleet of vehicles i.e., taxis and tro-tros, biomass burning for commercial cooking and fish smoking and household air pollution. Addressing air pollution in the metropolis requires development of policies by metropolitan assembly to target these sources and also ensuring regulatory monitoring.

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