African Diplomacy and International Affairs (Political Science focus)

Community-Based Water Quality Monitoring Methods in Guinea: A Replication Study on Drinking Water Safety Impacts

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Abstract

In Guinea, community-based water quality monitoring has been implemented to improve drinking water safety in rural areas. A mixed-method approach combining qualitative interviews with quantitative surveys was employed, ensuring representation from diverse socio-economic backgrounds across Guinea's regions. Community members reported a significant decrease in water-related illnesses (52% reduction) after the monitoring programme began. Water quality parameters improved notably, especially in areas with higher participation rates. The replication study confirms the positive impact of community-based water quality monitoring on drinking water safety, emphasising its importance for public health interventions. Governments and international organizations should support ongoing monitoring programmes to sustain these benefits and scale up successful initiatives. community-based water quality monitoring, Guinea, drinking water safety, public health intervention Model estimation used $\hat{\{}\theta\}=argmin\{\theta\}sumiell(yi,f\theta(\xi))+\lambda lVert\theta rVert2^{2}$, with performance evaluated using out-of-sample error.

Keywords: *Community-Based Monitoring, Water Quality Assessment, Participatory Research, Rural Development, Community Health Education, Quantitative Surveys, Qualitative Interviews*

ABSTRACT-ONLY PUBLICATION

This is an abstract-only publication. The complete research paper with full methodology, results, discussion, and references is available upon request.

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