Methodological Evaluation of Regional Monitoring Networks in Kenya: A Randomized Field Trial on Adoption Rates

Kamau Gitonga[1], Mwangi Ndege[1,2], Wanjiku Wanyama[3,4], Oluoch Kibet[5]

[1] Department of Interdisciplinary Studies, Maseno University

[2] Jomo Kenyatta University of Agriculture and Technology (JKUAT)

[3] Department of Advanced Studies, Technical University of Kenya

[4] Department of Interdisciplinary Studies, Jomo Kenyatta University of Agriculture and Technology (JKUAT)

[5] Department of Research, International Centre of Insect Physiology and Ecology (ICIPE), Nairobi

Author notes

Kamau Gitonga is affiliated with Department of Interdisciplinary Studies, Maseno University and focuses on Environmental Science research in Africa.

Mwangi Ndege is affiliated with Jomo Kenyatta University of Agriculture and Technology (JKUAT) and focuses on Environmental Science research in Africa.

Wanjiku Wanyama is affiliated with Department of Advanced Studies, Technical University of Kenya and focuses on Environmental Science research in Africa.

Oluoch Kibet is affiliated with Department of Research, International Centre of Insect Physiology and Ecology (ICIPE), Nairobi and focuses on Environmental Science research in Africa.

Abstract

In Kenya, there is a need to evaluate regional monitoring networks for environmental management. A randomized field trial was conducted across different regions in Kenya. A sample size of 100 sites was selected using stratified random sampling, ensuring representation from various ecosystems and administrative divisions. The analysis revealed a significant difference ($p < 0.05$) in adoption rates between urban and rural areas, with an average adoption rate of 72% across all regions. Randomized field trials provide robust evidence for understanding the effectiveness of regional monitoring networks in Kenya. Based on findings, targeted interventions are recommended to increase network adoption among underserved regions. The empirical specification follows $Y = \beta_{0+\beta}^{\rightarrow} p\, X + varepsilon$, and inference is reported with uncertainty-aware statistical criteria.

Keywords: *Kenyan, GIS, Randomization, Sampling Theory, Evaluation Metrics, Environmental Impact Assessment, Community Participation*

ABSTRACT-ONLY PUBLICATION

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

✉ REQUEST FULL PAPER

Email: info@parj.africa

Request your copy of the full paper today!

SUBMIT YOUR RESEARCH

Are you a researcher in Africa? We welcome your submissions!

Join our community of African scholars and share your groundbreaking work.

Submit at: app.parj.africa

Scan to visit app.parj.africa

Open Access Scholarship from PARJ

Empowering African Research | Advancing Global Knowledge