African Legislative Studies (Political Science focus)

Methodological Evaluation of Regional Monitoring Networks for Yield Improvement in Rwanda: A Randomized Field Trial Approach

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Abstract

Recent studies have highlighted the potential of regional monitoring networks in enhancing agricultural yield through improved data collection and analysis. The study employs a Randomized Field Trial approach, where treatments are randomly assigned to fields within each region. Data collection includes pre- and post-trial measurements of crop yields and environmental factors affecting productivity. In one specific field trial in the eastern region, an increase in yield by 15% was observed when compared to control plots not receiving treatment. The randomized field trials demonstrated that regional monitoring networks can significantly contribute to yield improvement, particularly in resource-limited settings. Further research should focus on scaling up these findings and exploring the potential of technology integration into existing monitoring systems. 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: *Geographic, Regional, Monitoring, Networks, Evaluation, Randomized, Trial*

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