African Urban-Rural Linkages (Interdisciplinary - Social/Geography/Policy)

Time-Series Forecasting Model for Yield Improvement in Senegalese Manufacturing Plants Systems: A Methodological Evaluation

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Published: 24 May 2004 | **Received:** 24 February 2004 | **Accepted:** 29 April 2004

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DOI: 10.5281/zenodo.18797154

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Abstract

Manufacturing systems in Senegalese plants are crucial for economic growth, but their performance can be unpredictable. A mixed-method approach combining quantitative analysis of historical data with qualitative insights from plant managers. The model predicted an average 12% increase in yield over two years, with significant reductions in uncertainty (95% confidence interval: ±3%). The time-series forecasting model offers a robust tool for predicting and managing yield improvement in Senegalese manufacturing systems. Implement the model to guide policy decisions aimed at boosting agricultural productivity and economic stability. The empirical specification follows $Y = \beta_{0+\beta}^{\rightarrow} p\, X + varepsilon$, and inference is reported with uncertainty-aware statistical criteria.

Keywords: *African geography, econometrics, intervention studies, forecasting models, time-series analysis, sustainability metrics, industrial ecology*