Review of: "Growth, Instability and Trend Analysis of Rice Production Indicators in Nigeria"

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Potential competing interests: No potential competing interests to declare.

The research method employed in this study relies on secondary-time series data obtained from the FAOSTAT database, spanning from the 1960/61 to the 2019/20 production cycle. The use of descriptive statistics, compound annual growth rate (CAGR), decomposition analysis, and the Instability Index constitutes the analytical framework for understanding changes in rice output, yield, and cultivated area over time (II).

Strengths of the Research Method:

Comprehensive Data Analysis:

- The study utilizes a long time frame (1960/61 to 2019/20), which allows for a comprehensive analysis of trends in rice production in Nigeria. This extensive data coverage enhances the robustness of the findings.

Sophisticated Analytical Techniques:

- The use of decomposition analysis provides insights into the contributions of yield and cultivated area to rice output. This allows for a nuanced understanding of the factors influencing rice production.

Volatility Assessment:

- The application of the Cuddy Della Valle Index to determine the volatility of rice production indicators is a valuable addition. This provides a measure of the stability or instability in different aspects of rice production.

Findings:

Temporal Trends:

- The study identifies a period of high yield performance between 1978 and 1992. This temporal analysis is essential for understanding the dynamics of rice production in Nigeria.

Cultivated Area Dominance:

- The decomposition analysis reveals that the increase in cultivated area had a significant impact on rice production in Nigeria. This finding suggests that the expansion of cultivated land has been the primary driver of increased output.

Weaknesses in Yield:

- The CAGR values for yield indicate weaknesses in Nigeria's rice yield over the study period. This is crucial information for policymakers and agricultural stakeholders aiming to improve productivity.

Volatility Insights:

- The instability index results highlight that yield performance is the most volatile aspect of rice production. This information is essential for risk assessment and management in the agricultural sector.

Research Limitations:

1. **Temporal Gap:**
    - The primary limitation is the lack of current data beyond the 2019/20 production cycle. This gap hinders a real-time assessment of the current state of rice production in Nigeria.

Originality/Value:

1. **Innovative Techniques:**
    - The study's originality lies in its application of decomposition techniques and the Cuddy Della Valle Index to evaluate the contributions and volatility of different factors in rice production. This adds value to the existing literature on agricultural productivity.

In conclusion, while the research method employed in this study offers valuable insights into the trends, contributions, and volatility of rice production in Nigeria, the limitation of outdated data underscores the need for continuous data collection to ensure the relevance and applicability of findings to current agricultural scenarios.