Productivity in Sub-Saharan Africa's Agricultural Sector: An Application of Data Envelopment Analysis and Regression Analysis.

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Abstract

This study is a cross-country analysis of the productivity of the agricultural sector of sub-Saharan Africa (SSA) countries between the periods of 2010 and 2017. The study adopted a descriptive design. The sample size includes thirty-eight (38) sub-Saharan African nations. Data gathering for this study involved collecting agricultural input and output factors spanning 2010–2017 from the World Bank and United Nations reports. The study used Data Envelopment Analysis (DEA) and panel regression analysis to identify and benchmark efficiency scores for each of the

decision-making units (38 SSA Countries) and to determine specific resources that make the most significant contributions to productive outputs included in the study. The results reveal that 9 SSA countries (representing 23.68%) were fully technically efficient in using agricultural inputs to generate outputs within 2010–2017. A few other countries were technically efficient only for a short period of 2010–2013. The statistical results also show that some SSA countries were technically inefficient from 2010 to 2013, but from 2014 to 2017, they constantly maintained technical efficiency. Following the findings, the study established critical implications for advancing the theory and practice of agricultural productivity.

Availability of Data and Material

The data used for this study will be made available by the authors upon reasonable request.

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Ethics declarations

Competing Interests

The authors declare no competing interests.

Additional information

Publisher's Note

Appendix

Appendix

Table 10 Technical efficiency scores and benchmark of SSA country's utilisation of agricultural resources (2010–2013)

Full size table

Table 11 Technical efficiency scores and benchmark of SSA country's utilisation of agricultural resources (2014–2017)

Full size table

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