

Does Adoption of Soil Conservation Practices Improves Farm Productivity and Food Security? Experience from Tanzania

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Introduction

Results and discussion

Population pressures and climate change have worsened farm productivity and food security situations of developing countries.

Adoption of Soil Conservation Practices (SCPs) has been widely accepted as a strategy address to food insecurity and climate change problems.

However, the level of adoption and extent to which it translates to different development outcomes is not well established leading to unclear and confusing policy implications.



Figure 1: Soil Erosion and Erosion Control (WWF, 2017)

On average, farmers who adopted at least one SCP package are **more productive** and **food secure** than non-adopters

Farmers who adopted both SCP packages are more productive and food secure relative those who adopted fewer packages.



SCP adoption determinants

The findings show that **household head's sex** and **'farm size**, **access to mobile phones**, **credit**, **extension services** and access to **socioprotection programmes** are among the key determinants of households' decision to adopt different SCPs packages

Impact of Soil Conservation Practices

Objective

This study examines the level of adoption determinants of farmers' decisions to adopt various SCP packages and the effect of the adoption of each package on farm productivity and households' food security

Research question

- What determines the farmers' decision to adopt SCP packages?
- How does different SCP packages impact farm productivity and households' food security?

Methodology

Data: We use the nationally representative Living Standard Measurement Study-Integrated Survey in Agriculture (LSMS-ISA) data for Tanzania's national panel survey,



Key finding I: Adoption of SCP significantly improve farm productivity, consumption expenditure and food security

Key finding II: On average, joint adoption of more than one package leads relatively larger and significant improvement in farm productivity and food security. This suggest complementarity among SCP practices



Conclusion

Adoption of SCP improves farm productivity and food security especially when SCP practices are jointly adopted which shows the potential complementary effect of these practices

the 2019's cross-section

Analytical Model: A doubly robustInverseProbabilityWeightedRegressionAdjustment(IPWRA)approach is employed to model thedeterminantsof adoptionof SCPpackagesand their effectson farmproductivityand food security.

Recommendations

Recommendation I: Our results point to the need for promotion of policies that enhance integrated adoption SCP packages for meaningful improvement in farm productivity and food security.

Recommendation II: The promotion of SCP adoption initiatives should go hand in hand with other potential policies like credit access, extension and social protection to enhance adoption of SCPs and their impacts.

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