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Assessing the impact of sustainable input intensification on crop production and household income in Malawi

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Abstract

This study assesses the adoption and impact of sustainable input intensification (SII) on the value of crop production and household income in Malawi. SII is a promising approach to increase crop yields through the increase in use of modern agricultural inputs combined with sustainable agricultural practices on given piece of land without compromising current and future environmental or social well-being. It is particularly relevant in the face of a growing population and rising food demand. Using a multinomial endogenous treatment effects model, the study evaluates the factors influencing adoption and the effect of combining organic fertilisers, inorganic fertilisers, and improved crop varieties on the value of crop production and household income among 1269 households. Results reveal an interplay of social, economic and environmental factors influencing a household's decision to adopt SII practices. The factors that positively promote the adoption of SII practices include years of education, gender, belonging to an agricultural group, land size, livestock ownership and experiencing floods. The results further reveal that the adoption of all the three inputs (organic fertiliser, inorganic fertiliser and improved crop varieties) resulted in the highest increase in value of crop production and household income (101 % and 129 %), respectively compared to individual and other input combinations like inorganic-organic fertilisers. These results highlight that promoting integrated adoption of these inputs is crucial. Based on these findings, the study recommends investing in farmers' education, promoting group membership, and land access initiatives, and refocusing the extension services towards promoting the most impactful SII combinations that can maximise household's crop value and income in Malawi.

Keywords: Household income, impact, input intensification, sustainable, sustainable input intensification, value of crop production