

Drivers and Welfare impacts of adoption of improved maize varieties among members of VICOBA groups in the southern highland regions of Tanzania; a case of Mbeya Regions

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Low rate of adoption of improved maize varieties (IMV), poor harvests, and poverty among smallholder farmers (SHF) continue to be problematic in Tanzania despite the existence of saving and loan groups through village community Banks (VICOBA), which facilitate credit accessibility in adopting the promising technologies for productivity increase and poverty reduction. The study used data from 120 VICOBA groups in Mbeya region to document the drivers of and welfare impacts from adoption of improved maize varieties among VICOBA groups in Mbeya region to document the drivers of and welfare impacts from adoption of improved maize varieties among VICOBA group members in Tanzania. Two specific objectives were studied; first to analyse the determinants of adoption of improved maize varieties among members of VICOBA groups and second to estimate the impacts of adoption on productivity and poverty. Maize yield and poverty score were used as outcome variables. The logit model was used to analyse the first objective and both Propensity Score Matching (PSM) and Endogenous Switching Regression (ESR) were used for impacts estimations. VICOBA group factors found significant in driving the adoption of IMV were VICOBA group size; savings proportion and social networks. Other factors were family size; education level; main occupation; own television; credit access; input and output market access, and district dummies. Results from both models PSM and ESR show positive impacts of adoption on productivity and poverty reduction. Impacts were higher for male headed households, for households headed by individuals with primary education (or below) and for less wealthy households in VICOBA groups. Target interventions such as group credit provision to youth and women VICOBA with low capital in order for members to invest in other income generating businesses apart from farming are crucial for reducing cost of credit acquisition which is important in technology adoption productivity maximization, and poverty reduction.