

ABSTRACT

Smallholder farmers in sub-Saharan Africa are faced with many challenges in the production of maize and legumes. Some of the challenges include soil mining, drought, soil erosion, input acquisition among others. These challenges cannot be alleviated with the adoption of a single agricultural practice but a bundle of combination. There was need, therefore, to evaluate if social capital among other factors influences adoption of the different combination of the six Sustainable Agricultural Intensification Practices among smallholder maize-legume systems in Kenya. The study used secondary data from Adoption Pathway project panel dataset collected from Bungoma, Siaya, Meru, Tharaka Nithi and Embu counties, in three waves: covering 613 households in the baseline, 535 in the midline and 495 in the end line was used in the analysis. Eighteen possible combinations adopted by smallholder farmers, a Principal Component Analysis was used to reduce data dimensionality, such that seven possible clusters were formed that were homogeneous within. An index of the different combinations in the cluster was then formed for each household. Using STATA software, a Seemingly Unrelated Regression model was used in the analysis of the seven equations against a set of dependent variables, among them social capital. The findings of the study showed that social capital is not significant in explaining adoption of different combinations of SAIPs that a household adopted except for cognitive social capital and participation level in group institutions where the household was a member. Other factors that influenced adoption of combination of SAIPs included age of the household head, received information about SAIP and input markets, amount of money that a household got as income and that which they saved. Additionally, the spatial distance of the farming plot measured as the number of walking minutes from the household homestead and the number of years one has been living in the village practicing maize-legume production also significantly influenced the combinations of the SAIPs that a household adopted. Policy interventions should encourage and promote better access to information and encourage participation in group institutions.

Keywords: Principal Component Analysis, Clusters, Seemingly Unrelated Regression