

# Summary of research activities, Africa RISING West Africa and East and Southern Africa projects

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## Key messages

- ✓ Several technologies are financially feasible
- ✓ These include soil fertility management, postharvest management, pest control, and high value crops practices.
- ✓ The adoption of the technologies would increase productivity and income
- ✓ Adoptions are influenced by several factors (such as access to market, farm resources and information/knowledge) which should be taken into account during scaling
- ✓ Strengthening local conventions is essential to maintain and enhance the natural resource base.

## Objectives and approach

Our socioeconomics research cycle constitutes several components (Figure 1). The objectives are: (1) to explore socioeconomic contexts of smallholder farming systems; (2) to assess the financial benefits of the new technologies and compare them with farmers' practices; (3) to assess the adoption and impact of sustainable intensification practices (SIPs) promoted by Africa RISING. We used data from agronomic trials, household surveys, focus group discussions, and secondary sources to conduct the studies. Three economic indicators were computed to assess the financial feasibility of the technologies: gross margin, returns to labor, and benefit cost ratio. Various methods were used in the adoption and impact studies including: multivariate probit model and multivalued semi-parametric treatment effect model.

## Key results

Results of the cost-benefit analyses show that large number of the technologies have high financial feasibility (Figure 2). Moreover, most of them are either as good as the control technologies or better in terms of the three economic indicators. The adoption and impact studies show that farmers are applying different SIPs (Figure 3). Access to market, farm resource availability, access to information/knowledge, and motivational factors, among others, would enhance the adoption of SIPs whereas gender doesn't have considerable effect. Results also show that adoption of SIPs would have positive and significant effects on grain yield and income.

## Significance and scaling potential

The studies provide supporting evidence that the application of the new technologies would increase productivity and income. However, focusing on those technologies with high physical and financial advantages over the traditional ones would be more effective in addressing farmers' food security and income objectives than taking a multitude of them on board during scaling.

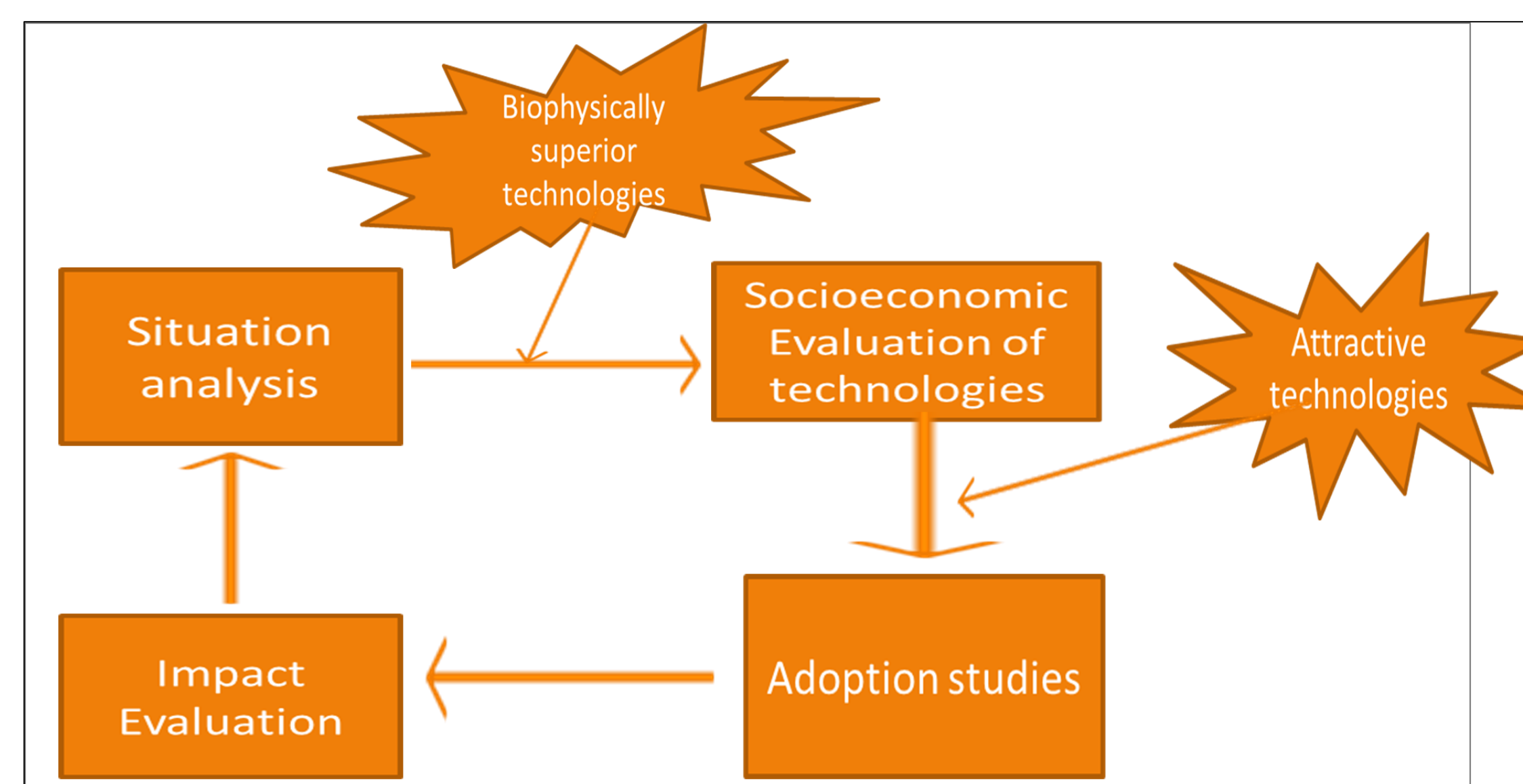
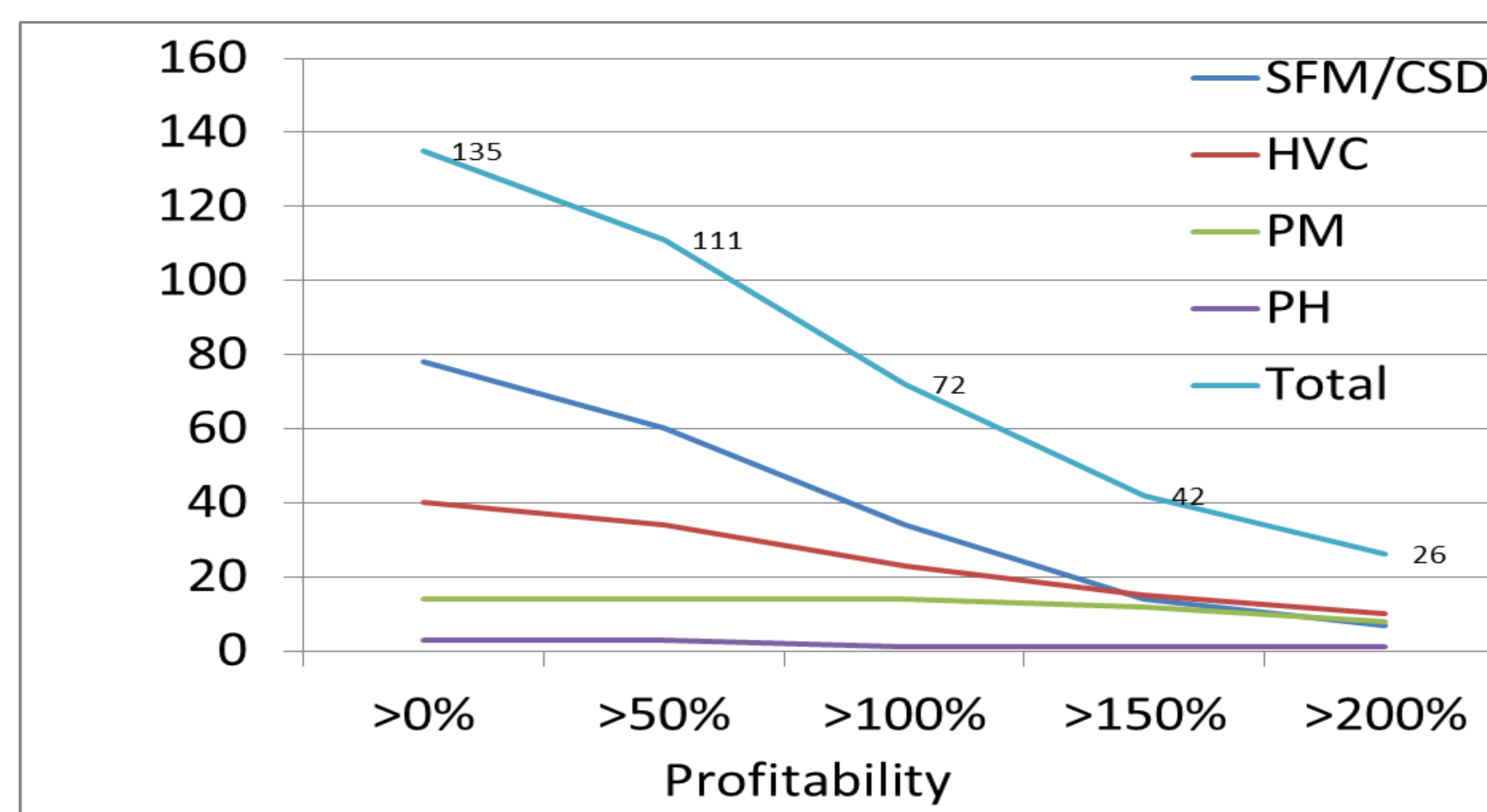


Figure 1: Socio-economics research activities



Note: SFM=soil fertility management; HVC = high value crops; PM = pest management; PH = post harvest management

Figure 2: Number of AR technologies by profit levels,

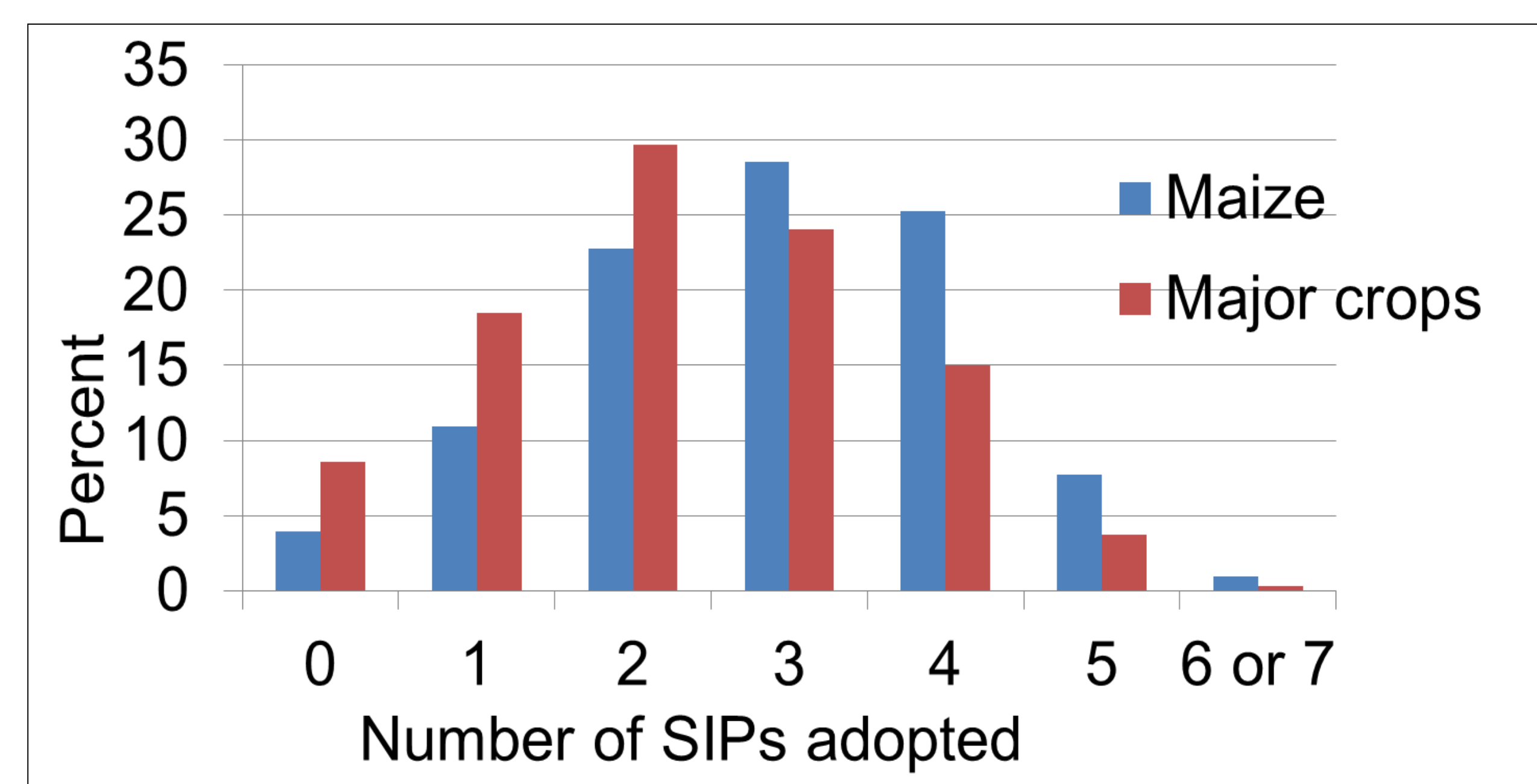


Figure 3: Adoption SIPs in Ghana (N=1284)