Transforming Maize-Legume Systems for Climate Resilience
A project implemented in Zambia, Malawi and Zimbabwe

Key Project Highlights

- The project conducted a Vulnerability Assessment across four target agro-ecologies in Malawi, Zambia and Zimbabwe
- CSA systems were piloted in 19 on-farm communities and combined in a Pilot Report
- Technologies were prioritized in three national and one regional stakeholder workshop and summarized in a Prioritization Report
- A Feasibility Study was written based on prioritized technologies covering Benefits of productivity, profitability, social and environmental benefits
- Project Outputs: Four Project Reports shared on www.saiks.ccardesa.org

Results

- Most target communities in Malawi, Zambia and Zimbabwe are vulnerable to droughts, in-season dry spells, delayed on-set of the cropping season and heat waves
- Farmers adapt to these with different types of conservation agriculture practices, diversification, and drought tolerant seeds
- Climate-smart agriculture (CSA) technologies out-yield conventional agriculture systems by up to 60%
- Economic benefits are evident from the first year and save labour between 25 - 45 labour days /ha
- CSA technologies have greater Net Benefits, Net Present Value, Internal Rate of Return, higher Returns to Labour and Investment and a shorter Payback Time
- Results show lower soil erosion, higher water infiltration and available soil moisture but only a gradual increase in organic matter
- CSA systems are more climate-resilient under heat and drought stress especially on sandy soils
- Concept notes developed with targets to reach 1.3M direct and 4M indirect beneficiaries, with yield increases of up to 50% on maize and 30% on legumes and increased carbon sequestration of 30% over conventional farming rates.

Figure 1: Maize productivity increases (in kg/ha) of different climate-smart agriculture technologies (shown as yellow, green or blue boxplots) as compared to the conventional agriculture practices (in red)

Figure 2: Labour savings when practicing climate-smart agriculture in Malawi. Total labour saved on land preparation is 25 labour days/ha and another 15 labour days/ha on weed control