

2. Feasibility study of Climate-Smart Agriculture for rural communities in southern Africa: the approach.

13 CLIMATE ACTION



"A Climate-Smart Agriculture (CSA) innovation is a technology or practice that increases farm productivity and profitability; helps farmers cope with negative effects of climate change and build resilience; and mitigate climate change by reducing greenhouse gas emissions and/or increase carbon sequestration in soils."

● CSA pilot rural communities
▲ Research Station



19 farming communities in Zambia, Zimbabwe and Malawi



500mm to 1,800mm



Low, mid and high altitude



Sandy to clay soils



Farming systems

across different agroecologies and farming systems

5 research stations



Participatory vulnerability assessment: what are the risks, exposure/sensitivity and existing coping mechanisms?



Can we scale out CSA ?



Prioritization : Identification of feasible CSA best-bet options to scale for better adaptation

- Stakeholder meetings (3) to select 2 best-bet CSA options to compare with conventional system in term of productivity, adaptation and mitigation potential.
- Regional decision-maker workshop in Zambia, 2018 with NARS research and extension directors; and other stakeholders using GIZ Climate proofing tool per agroecological zone

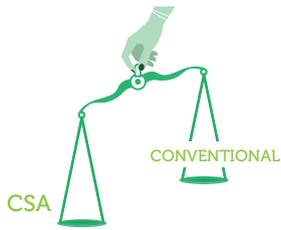


Long-term on-farm and station trials to understand benefits and trade-offs of CSA technologies/practices in variable climate (productivity, income, social, environment)



Quantity Soil Carbon?

Pilot study to test adaptability of new CSA system (doubled legume rotation) & CSA mitigation potential



3. Identifying the two best-bet CSA options to test

Conventional

1st CSA option

2nd CSA option

	MALAWI	ZAMBIA MANUAL SYSTEMS	ZAMBIA ANIMAL TRACTION	SOUTHERN ZIMBABWE SOUTHERN ZAMBIA
Conventional	<p>Manual ridge tillage with crop rotation maize & groundnut</p>	<p>Ridge maize</p>	<p>Mouldboard ploughing, maize</p>	<p>Conv mouldboard ploughing, maize legume rotation</p>
1st CSA option	<p>No-tillage (dibble stick) and maize-groundnut rotation</p>	<p>Dibble stick maize</p>	<p>ripline seeding, maize</p>	<p>Ripline seeding, maize legume rotation</p>
2nd CSA option	<p>No-tillage (dibble stick) and maize-legume intercropping then doubled legume (pigeonpea/gt) rotation</p>	<p>Dibble stick maize-legume intercropping</p>	<p>Ripline or direct seeding, maize legume intercropping</p>	<p>Direct seeding, maize legume intercropping</p>

