Out scaling climate-smart technologies to smallholder farmers in Malawi, Zambia & Zimbabwe

Project progress

27th November, 2018, CIMMYT-Zimbabwe, Harare

Climate Smart Agriculture

Agriculture that **sustainably increases productivity**, enhances resilience (**adaptation**), reduces/removes GHGs (**mitigation**) where possible, and enhances achievement of national food security and development goals".

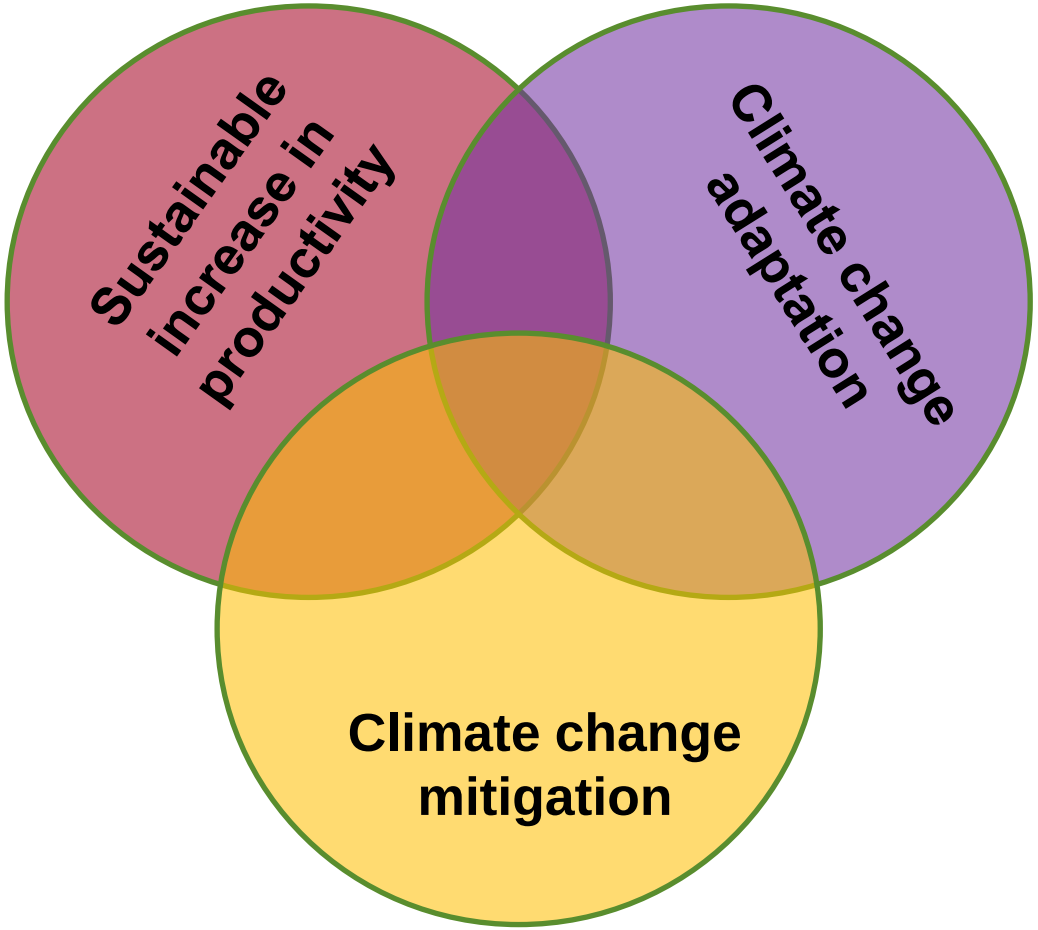
Main focus: **food security** and **development**

Three Pillars

1. **Productivity**
2. **Mitigation**
3. **Adaptation**

More details: FAO(2013):[http://www.fao.org/climate-smart-agriculture/85725/en/]

What do we understand by Climate-smart Agriculture



THE PROJECT

Goal

- Contribute to **increased productivity**, **food security** and **climate resilience** of smallholder farmers managing **maize-based farming systems** in contrasting environments of Zambia, Malawi and Zimbabwe.

PARTNERS

- **Implementation:**
  - **The Zambian Ministry of Agriculture through (ZARI)**
  - **Ministries of Agriculture for Malawi and Zimbabwe.**
  - **International Maize and Wheat Improvement Centre (CIMMYT)**
  - **Smallholder farmers in Malawi, Zambia and Zimbabwe Project**
  - **Total land Care**
- **Support:**
  - **Gesellschaft für Internationale Zusammenarbeit (GIZ) and the Centre for Coordination of Agricultural Research and Development for Southern Africa CCARDESA.**

Sites

Country	District	Agro-ecological zone	Average annual rainfall (mm)	Average temperature (°C)
Southern Malawi	Balaka	Low altitude	841	23.1
Central Malawi	Nkhotakota	Low altitude	1360	23.8
Central Malawi	Salima	Low altitude	853	24.1
Central Malawi	Dowa	Mid altitude	733	20.0
Eastern Zambia	Chipata, Sinda, Lundazi	Mid altitude	1017	21.8
Southern Zambia	Monze	Mid altitude	748	21.3
Zimbabwe	Zaka	Mid altitude	729	21.0

Background:

- **Agricultural production in southern Africa is constrained by numerous factors incl.:**
  - **frequent droughts and in-seasonal dry-spells,**
  - **declining soil fertility,**
  - **excessive water run-off and soil erosion,**
  - **unsustainable land-use practices and limited adoption of improved agricultural technologies (Thierfelder *et al.*, 2015).**

Background:

- Climate projections for southern Africa until 2050 suggest temperature increases by on average 2.1-2.7°C (Cairns *et al.*, 2012), which will lead to a delay in the onset of the rainy seasons and increased extreme events (e.g. excessive rainfall and drought stress).
- **Maize production, is projected to decrease by 10-30% until 2030 and up to 50% until 2080 if no measures are taken to adapt to climate variability and change (Lobell *et al.*, 2008; UNEP/GRID-ARENAL, 2016).**
- **Adaptation can be improved through the use of climate smart agriculture (CSA) technologies.** Climate smart cropping systems can better adapt to the negative effects of climate change, mitigate its effects and provide farmers with sustainable increase in yield.

PROCESS:

- This project aims at understanding the **vulnerability of the maize-value chain** under conventional tillage towards climate-related stresses and **identify “best bet” and “best fit” technologies** that could help adapt the current farming systems to climate change and mitigate their negative effects.

Detailed Description of Activities

- **Undertake a climate change vulnerability assessment of the selected agriculture value chain in the different selected agro ecological zones.** Develop a climate risk profile for the value chain to identify the opportunities for Climate adaptation and mitigation.

Detailed Description of Activities

Piloting CSA technologies to assess climate smart effects and impacts on-farm

- *Piloting new CSA practices*
- *Generate and document evidence from the long CA trials*

- Based on the vulnerability assessment and pilots, identify and propose proven CSA best practices.
- Undertake a feasibility study detailing the technical design and implementation of the proposed CSA technologies and best practice.

- Develop **investment proposal** for upscaling and disseminating the proposed CSA technologies and practices with national partners and/ or government which includes measures to benefit women and youth.

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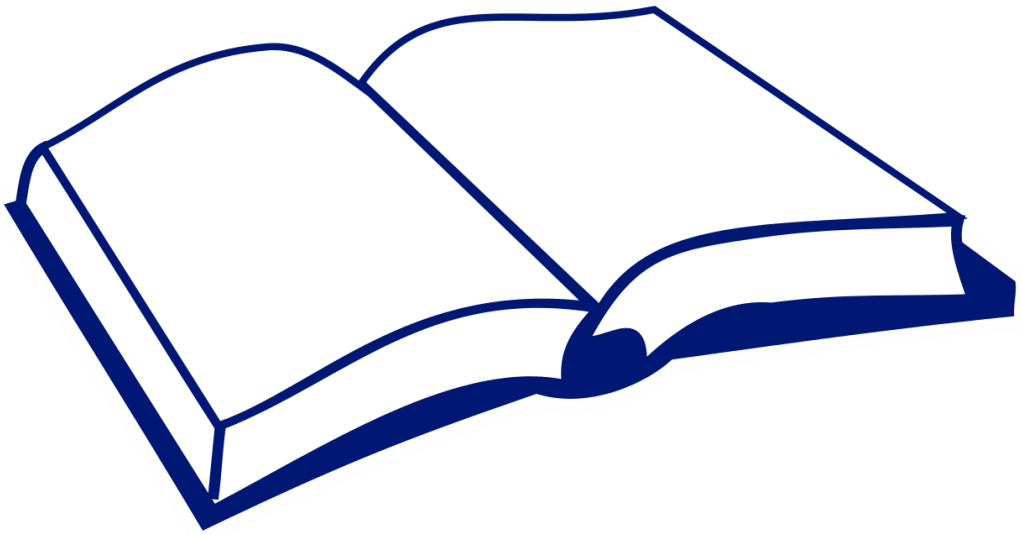

PROGRESS:

- **Vulnerability Assessment done.**
- **In-country socialization and prioritization meetings.**
- **Regional socialization and prioritization meeting.**
- **Biological and socio-economic data.**
- ***Feasibility study for CSA technologies.***
- ***Initial workshop to formulate the Investment proposal***

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