Pulling it all together:
Practical pathways to increasing uptake of Adaptation Technologies in the Region

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Climate Smart Agriculture (CSA)

CSA is NOT just a set of practices, BUT an approach to develop the technical, policy and investment conditions to achieve sustainable agricultural development for food security under climate change.

- Sustainably increase agricultural productivity and incomes
- Adapt and build resilience to climate change
- Reduce and/or remove greenhouse gas emissions where possible
Support countries transitioning towards CSA through evidence based decision making processes and policy support. This requires formulating National climate-smart agricultural strategies or roadmaps using an evidence base for identifying, developing and implementing practices, policies and investments for CSA).
Five main areas of work

1. Evidence base (Research Component)
2. Policy support (Capacity building component)
3. Strategic framework/country ownership
4. Validation of strategic framework
5. CSA investment proposals mainstreamed into national policies and programmes
A - EVIDENCE BASE - STEPS UNDERTAKEN

1 - Stocktaking and *qualitative* analysis to define CC challenges and options at country level and CSA potentials

(Define the evidence to provide the empirical analysis to undertake to inform decision making)

2 - Institutional and policy mapping

(Provide an overview of relevant institutional, policy & regulatory framework for CC & assessment of how CC issues are coordinated.)
3 - Evidence base and empirical analysis:

a) Identification of data available and data needs.

*Outcomes: Meta data base that combines climatic data with household level data and institutional data*

b) Assessing historical and near future risks associated with climate change and opportunities

c) Analysis of adoption patterns of agricultural or livelihood strategies with CSA potential, identifying drivers and barriers of adoption.

d) Analysis of food security and adaptation impacts
STEPs Undertaken (Cont’d)

4- Coping with and managing future changes:

• Simulation of different climatic patterns relevant for agricultural production

• Assessment of future benefits under different CC scenarios using crop/climate model projections (MOSAICC method)

• The role of social protection for managing climate risk (extracted from the institutional mapping)
5 - Costs of identified options. (CBA)

Assessment of costs to compare with benefits.

6 - Mitigation potential: (ExACT, GLEAM)

Integrating assessment of mitigation potential.
Policy Support - Capacity Building and Partnerships

- Formation of the national CSA technical core team
- Construction of web-based knowledge sharing platform to facilitate iterative learning across stakeholders
- Collaborative implementation of nationally based surveys (Mapping, CBA, GLEAM, Ex Act)
- Support to country national PhD and Masters students on Project-related work
- Facilitation of inter-sectoral and multi-disciplinary policy dialogues – knowledge sharing & consensus building
- Support for agricultural policy-makers in attending international climate change policy processes
- Collaborative development of field extension staff training manual on agriculture and climate change.
- Preparation and dissemination of policy briefs on climate smart agriculture
Evidence Feeding The Strategic Framework

1- Historical and future climate scenarios impact on agriculture
2- Practices most suited to areas of highly variable rainfall patterns.
3- Which practices are farmers actually adopting?
4- Practices most suited to areas with increasing temperatures.
5- Which improved crop practices give farmers higher incomes?
6- What is the role for agricultural practices in reducing deforestation and forest degradation?
7- How can livestock systems be improved?
8- What are the key barriers to adopting improved practices in crop and livestock systems and what measures can be taken to overcome them?
9- What are the GHG mitigation opportunities in Zambia
Strategic framework and other outcomes from the Phase of the CSA project

1 - **Strategic Framework**: Summarizes and synthesizes the analytical findings generated by the FAO-EC CSA project in Zambia over the past three years and provides a set of proposals for actions to scale up CSA in the country based on the findings.

2 - **CSA inclusion in the Zambian REDD+ strategy** as a means for reducing the agriculture sector as a key driver of deforestation

3 - **CC mainstreamed in the National Agricultural Policy (NAP)** through the CSA brokered inter-ministerial dialogue in the revision of both the CC policy and the NAP

4 - **CSA inclusion in both the Mitigation and Adaptation measures** in the Zambian INDC.
What have we learned?
1. Analysis of exposure and sensitivity to climate risk in recent years

Data Sources

- **Rainfall (1983-2012):** Dekadal (10 days) rainfall data from Africa Rainfall Climatology v2 (ARC2) of the National Oceanic and Atmospheric Administration’s Climate Prediction Center (NOAA-CPC)

- **Temperature (1989-2010):** Dekadal avg, min & max temperatures of the European Centre for Medium-Range Weather Weather Forecasts (ECMWF)

- **Soil:** Soil nutrient availability and soil pH levels from the Harmonized World Soil Soil Database (HWSD)
2. Analysis of barriers to adoption and yield impacts

Issues addressed

Malawi and Zambia:

- Conservation agriculture with agro-forestry
- Soil & water conservation
- Diversification of production (dairy, legumes)
- Livestock
- Safety nets and risk management
- Input use efficiency
- The role of agriculture as a driver of deforestation
Linkages with ecosystem services

- Higher & more stable yields decrease pressure on the forest frontier
- Improved incomes decrease pressure on forests for charcoal source
- Improved livestock management decreases emissions
- CSA strategies include sustainable use of forest products
3. Assessing the mitigation potential & combining all the pieces...

- Developing spatially-differentiated & practice-specific GHG mitigation estimates (with AGAL & University of Aberdeen)
- To be combined with cost & benefit analyses to prioritize CSA options
- CSA Investment proposals for each country
MAJOR ACTION AREAS FOR SCALING UP CSA IN ZAMBIA: Strategic Proposals for Consultation /Validation

1-Enhancing smallholder farmer incomes and food security through adoption of improved crop practices

2-Develop integrated crop/agroforestry packages for reducing emissions in Region III.

3-Increasing livestock productivity while reducing emissions per unit product

4-Agricultural intensification to support REDD+

5-Supporting Fertilizer Input Support Programme to become climate smart

6-Integrating climate risk knowledge and management capacity in Zambia’s agricultural planning, research and extension systems
KEY MESSAGES

- Climate change is already impacting agriculture and generally negatively so we need to move quickly to maintain/enhance agriculture’s ability to support food security.

- The focus of ag development policies need to shift from average gains to resilience given that CC is already affecting all aspects of food security.

- Climate change impacts are quite differentiated – effective ag policy for adaptation depends on time frame and CC impacts.

- More research is needed to better understand site specific mitigation & adaptation impacts.
Thank You For Your Attention!
ZIKOMO!

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