Fostering CSA in Tanzania through Partnerships

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Galway, Ireland

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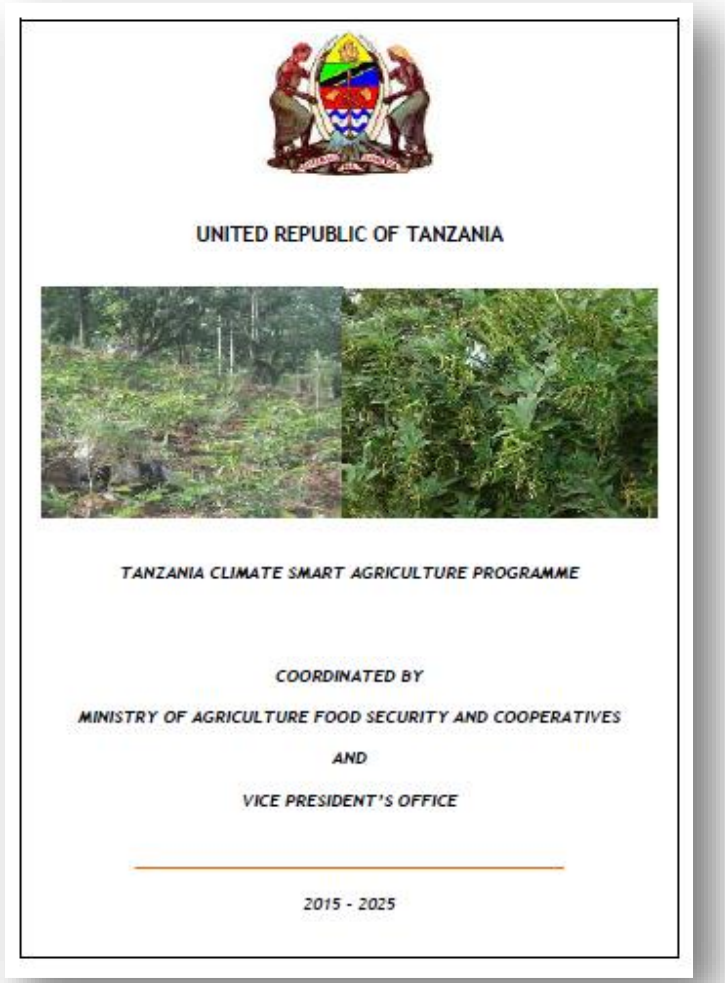
CCAFS Science Supporting Climate-Smart Agriculture in Tanzania

CSA Framework Program



UNITED REPUBLIC OF TANZANIA

TANZANIA CLIMATE SMART AGRICULTURE PROGRAMME

COORDINATED BY

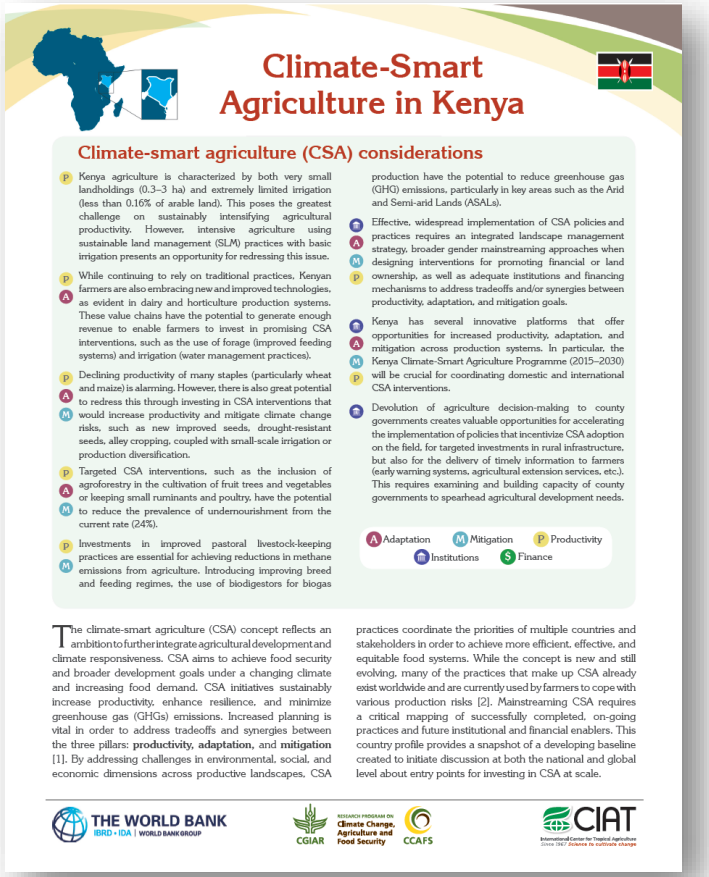
MINISTRY OF AGRICULTURE FOOD SECURITY AND COOPERATIVES

AND

VICE PRESIDENT'S OFFICE

2015 - 2025

CSA Country Profile



Climate-Smart Agriculture in Kenya

Climate-smart agriculture (CSA) considerations

Kenya agriculture is characterized by both very small landholdings (0.3–3 ha) and extremely limited irrigation (less than 0.16% of arable land). This poses the greatest challenge on sustainably intensifying agricultural productivity. However, intensive agriculture using sustainable land management (SLM) practices with basic irrigation presents an opportunity for redressing this issue.

While continuing to rely on traditional practices, Kenyan farmers are also embracing new and improved technologies, as evident in dairy and horticulture production systems. These value chains have the potential to generate enough revenue to enable farmers to invest in promising CSA interventions, such as the use of forage (improved feeding systems) and irrigation (water management practices).

Declining productivity of many staples (particularly wheat and maize) is alarming. However, there is also great potential to redress this through investing in CSA interventions that would increase productivity and mitigate climate change risks, such as new improved seeds, drought-resistant seeds, alley cropping, coupled with small-scale irrigation or production diversification.

Targeted CSA interventions, such as the inclusion of agroforestry in the cultivation of fruit trees and vegetables or keeping small ruminants and poultry, have the potential to reduce the prevalence of undernourishment from the current rate (24%).

Investments in improved pastoral livestock-keeping practices are essential for achieving reductions in methane emissions from agriculture. Introducing improving breed and feeding regimes, the use of biodigestors for biogas production have the potential to reduce greenhouse gas (GHG) emissions, particularly in key areas such as the Arid and Semi-arid Lands (ASALs).

Effective, widespread implementation of CSA policies and practices requires an integrated landscape management strategy, broader gender mainstreaming approaches when designing interventions for promoting financial or land ownership, as well as adequate institutions and financing mechanisms to address tradeoffs and/or synergies between productivity, adaptation, and mitigation goals.

Kenya has several innovative platforms that offer opportunities for increased productivity, adaptation, and mitigation across production systems. In particular, the Kenya Climate-Smart Agriculture Programme (2015–2030) will be crucial for coordinating domestic and international CSA interventions.

Devolution of agriculture decision-making to county governments creates valuable opportunities for accelerating the implementation of policies that incentivize CSA adoption on the field, for targeted investments in rural infrastructure, but also for the delivery of timely information to farmers (early warning systems, agricultural extension services, etc.). This requires examining and building capacity of county governments to spearhead agricultural development needs.

Adaptation Mitigation Productivity Institutions Finance

The climate-smart agriculture (CSA) concept reflects an ambition to further integrate agricultural development and climate responsiveness. CSA aims to achieve food security and broader development goals under a changing climate and increasing food demand. CSA initiatives sustainably increase productivity, enhance resilience, and minimize greenhouse gas (GHGs) emissions. Increased planning is vital in order to address tradeoffs and synergies between the three pillars: **productivity, adaptation,** and **mitigation** [1]. By addressing challenges in environmental, social, and economic dimensions across productive landscapes, CSA practices coordinate the priorities of multiple countries and stakeholders in order to achieve more efficient, effective, and equitable food systems. While the concept is new and still evolving, many of the practices that make up CSA already exist worldwide and are currently used by farmers to cope with various production risks [2]. Mainstreaming CSA requires a critical mapping of successfully completed, on-going practices and future institutional and financial enablers. This country profile provides a snapshot of a developing baseline created to initiate discussion at both the national and global level about entry points for investing in CSA at scale.

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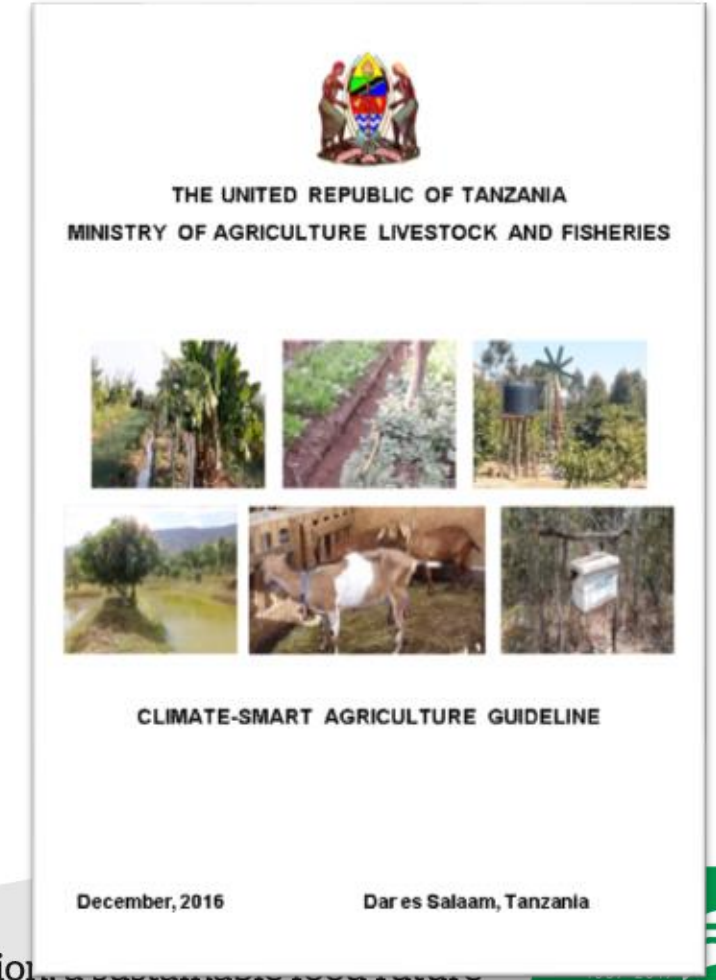
CSA Guidelines



THE UNITED REPUBLIC OF TANZANIA

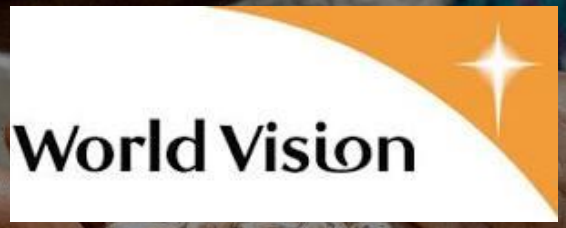
MINISTRY OF AGRICULTURE LIVESTOCK AND FISHERIES

CLIMATE-SMART AGRICULTURE GUIDELINE

December, 2016 Dar es Salaam, Tanzania

Our vision, a sustainable food future

Africa CSA Alliance



CSA-Plan

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Engagement

Situation Analysis
Target Setting, Climate Risks & Enabling Conditions

Targets, Vulnerability & Impacts, Readiness

Stocktaking for CSA Action

Prioritizing Interventions
Practices, Programs and Policies

Value for Money & Trade-offs

CSA Investment Portfolios

Program Implementation
Design, Development & Deployment

Knowledge into Action

Taking CSA to Scale

Monitoring and Evaluation
Across Scales and Systems

Evidence Based Results Framework

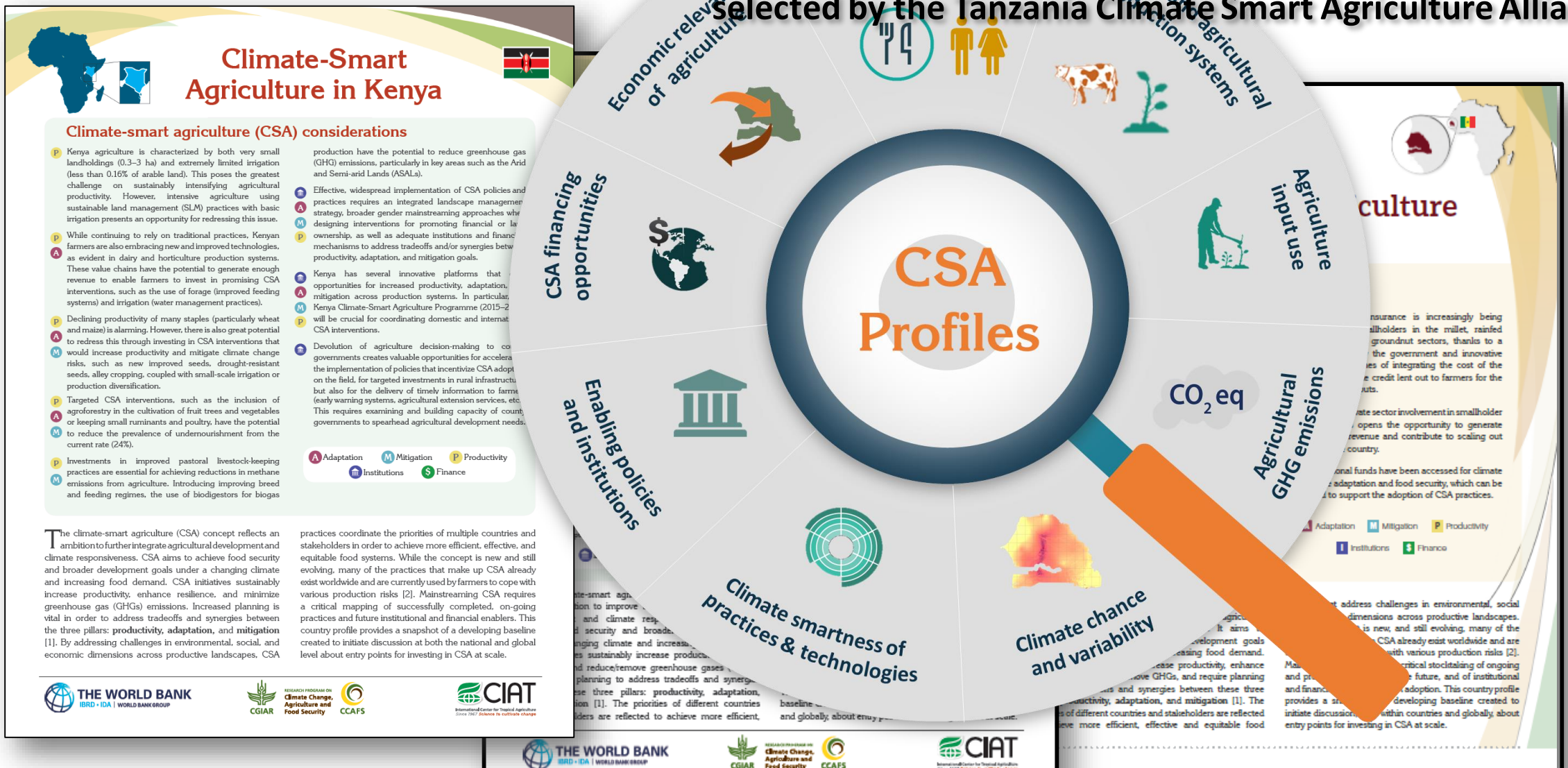
Learning from Experience

Capacity Strengthening

Situation Analysis: CSA Profiling

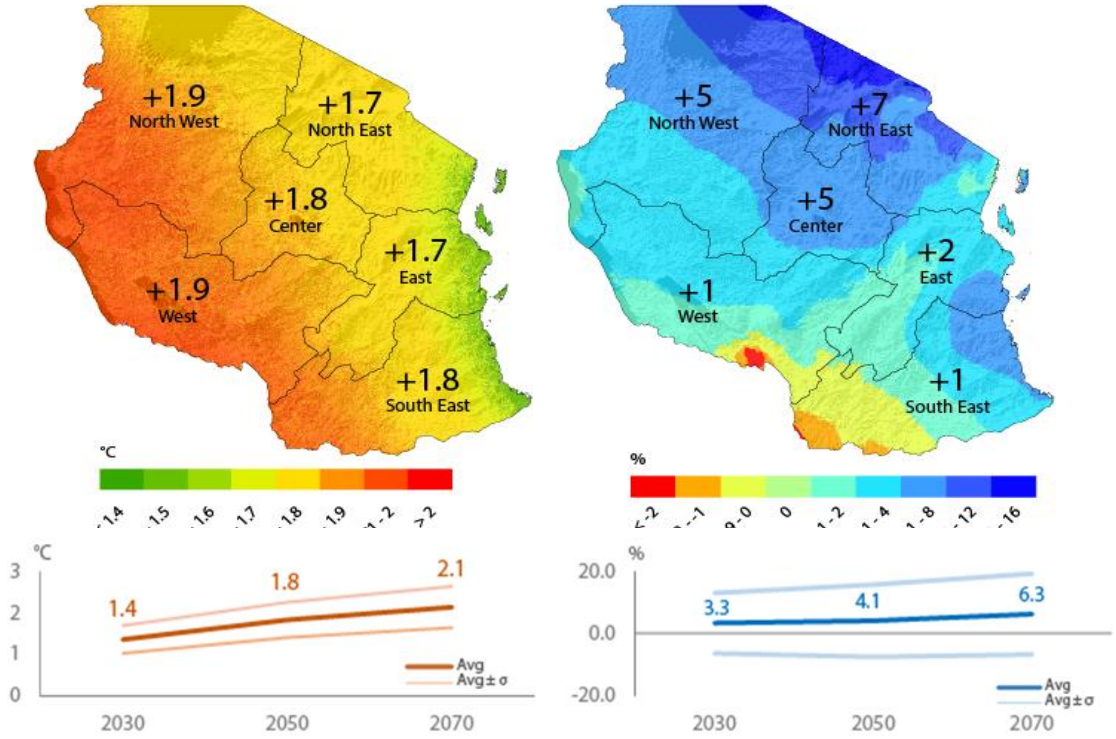
https://ccafs.cgiar.org/publications/csa-country-profiles

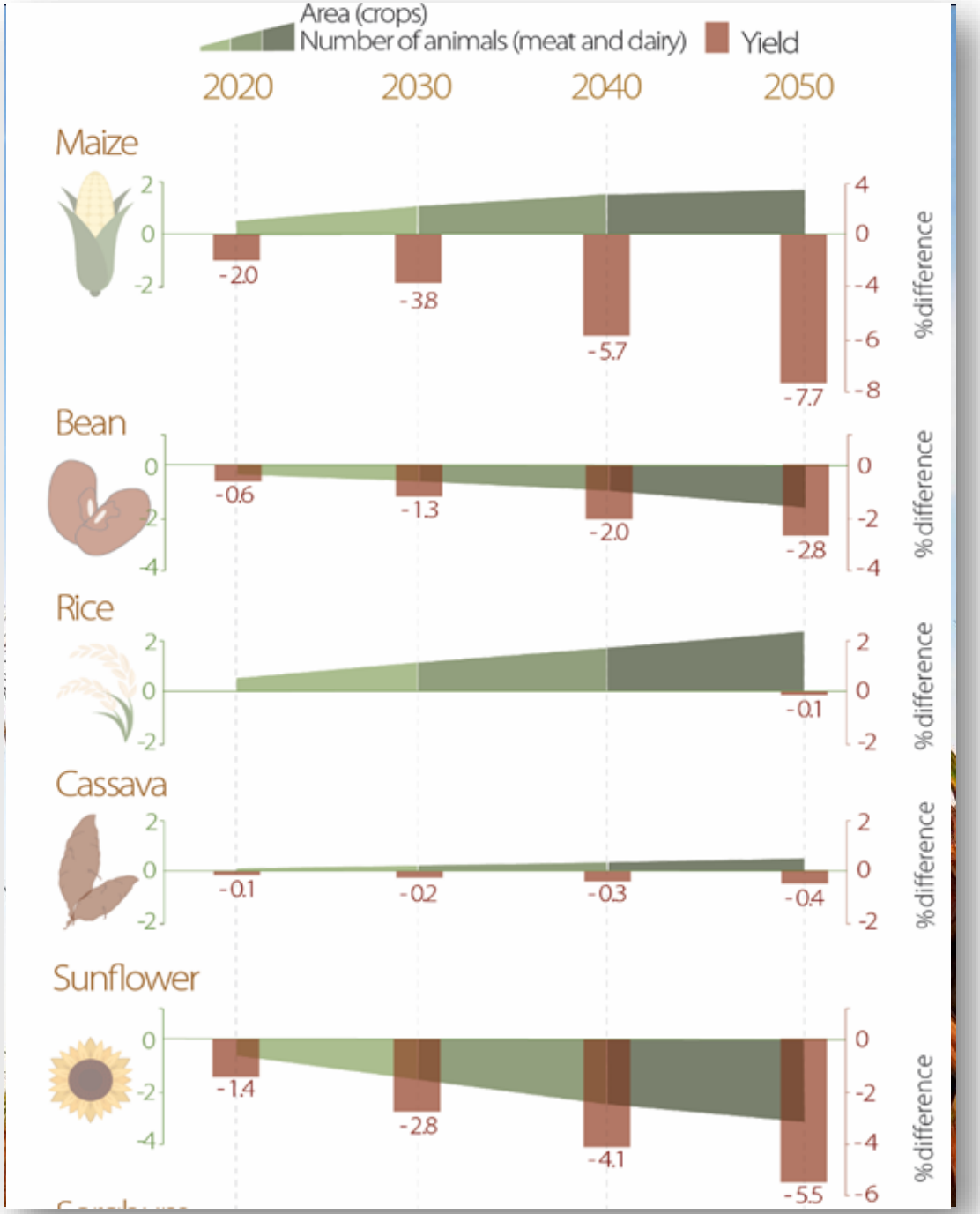
- **Tanzania Currently in Final Draft Stage for Peer Review**
- **Process being led by Ministry of Agriculture Task Force Team selected by the Tanzania Climate Smart Agriculture Alliance**



Climate Change and Impacts

Tanzania Projected Change in Temperature and Precipitation by 2030

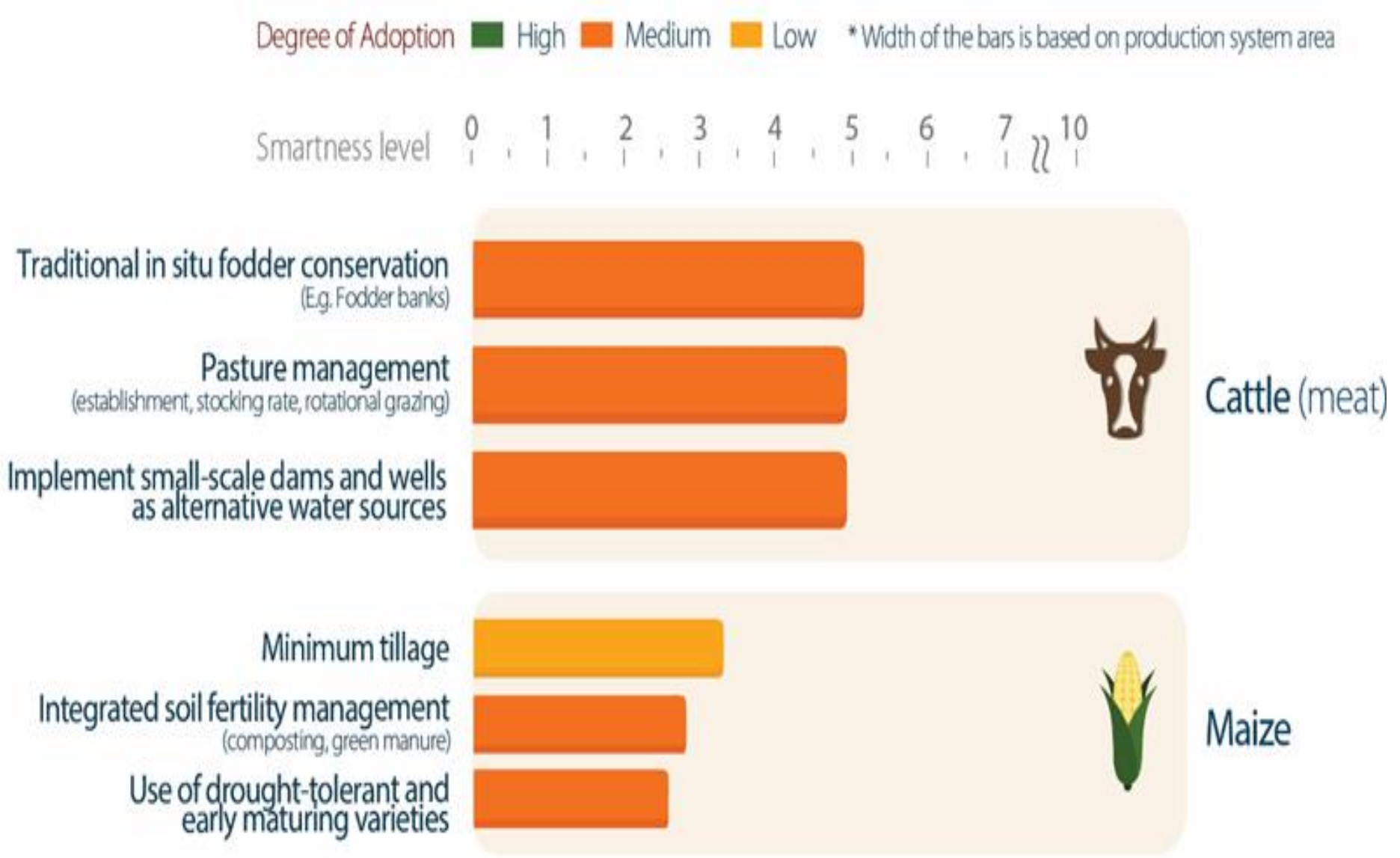




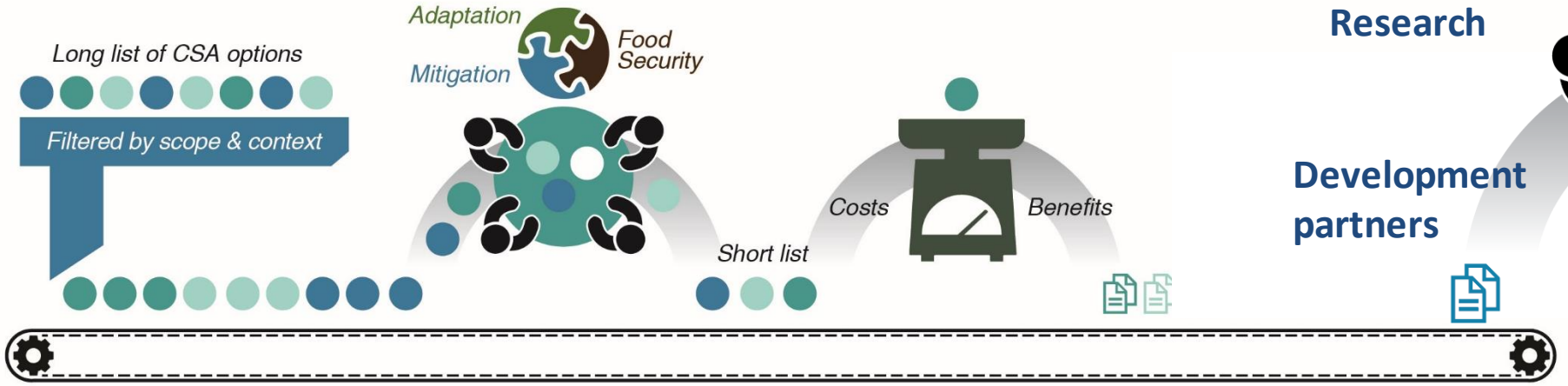
https://ccafs.cgiar.org/publications/csa-country-profiles

CSA Practices smartness

https://ccafs.cgiar.org/publications/csa-country-profiles



Prioritizing Interventions



Governmental decision-makers (national, local)

Research

NGOs

Development partners

Community organizations

Results

- **Scope** – region, commodity
- **CSA indicator** selection
- **long list** of CSA practices

Results

- **Short list** of priority practices and programs
- Stakeholder selection via **workshops**

Results

Ranked short list based on **economic analysis**

Results

- **CSA investment portfolios**
- Identified opportunities and constraints

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Priorities Matter for Designing CSA Programs

Equal Adaptation & Productivity	Adaptation Only	Productivity Only	Maize Yield Only	Maize Yield considering adoption rates
Green Manure	Green Manure	Green Manure	Organic Fertilizer	Inorganic Fertilizer
Mulching	Organic Fertilizer	Water Harvesting	Water Harvesting	Intercropping
Organic Fertilizer	Mulching	Mulching	Inorganic Fertilizer	Water Harvesting
Water Harvesting	Reduced Tillage	Agroforestry	Green Manure	Organic Fertilizer
Pruning	Crop Residue	Organic Fertilizer	Zai Pits	Zai Pits
Inorganic Fertilizer	Pruning	Inorganic Fertilizer	Intercropping	Mulching
Agroforestry	Inorganic Fertilizer	Pruning	Mulching	Reduced Tillage
Crop Residue	Intercropping	Intercropping	Reduced Tillage	Crop Residue
Reduced Tillage	Agroforestry	Crop Residue	Improved Variety	Green Manure
Intercropping	Water Harvesting	Reduced Tillage	Crop Residue	Crop Rotation
			Agroforestry	Improved Variety
			Crop Rotation	Agroforestry

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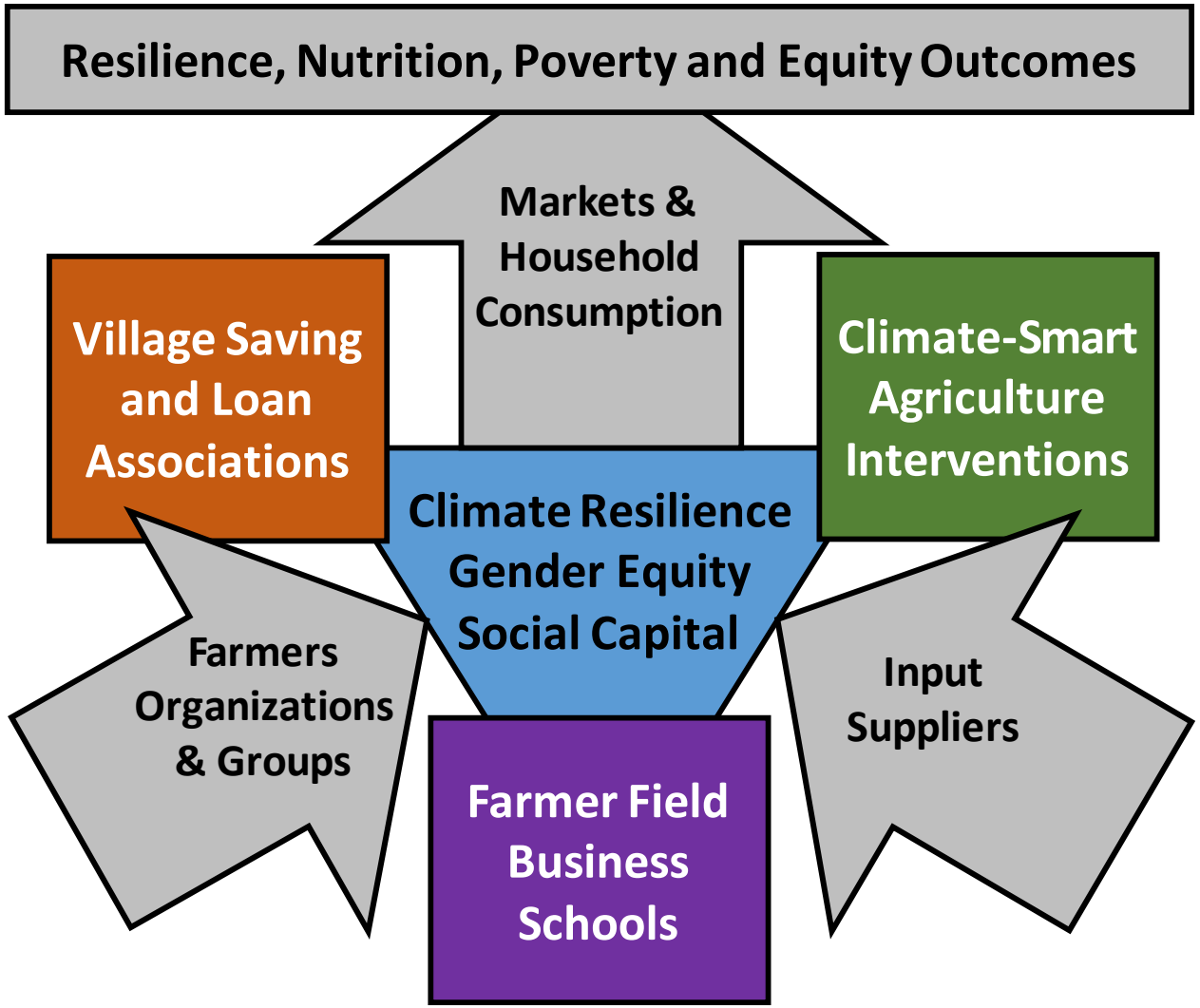
Data from Tanzania Compendium, Rosenstock et al.

Program Design & Implementation:
Innovative Finance and Business Models for Scaling



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Three Key Lessons

- **Partnerships and early engagement** with key stakeholders are critical: the **process is as important as the final product** and scientists need to engage in the appropriate places in the process

- Deployment of scientific evidence must be **timely and packaged in a way that is useful to stakeholders**

- The enabling environment in Tanzania is developing well, but **more is needed to translate high-level frameworks and guidelines into on-the-ground action**

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