Mainstreaming Climate-Smart Agriculture in Programs and Policies

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USAID GLEE – CSA, Lusaka, Zambia
PRESENTATION LEARNING OBJECTIVES

• To demonstrate how CSA can be mainstreamed into national programs and policies
• To provide examples of CSA planning tools and approaches being applied to support partners and national institutions
• To highlight lessons learned from application of CSA Country Profiles and the CCAFS CSA Prioritization Framework
• Highlight how tools and approaches can be most effectively integrated into USAID agricultural planning and programs
African Union – New Partnership for African Development

Regional Economic Communities (RECs)

National Agricultural Investment Plans (NAIPs)
Other National Level Policies (NAPAs/NAPs/NAMAs, etc.)

Programmatic Investments and Policies
Staple Crops, Cash Crops, Livestock/Dairy, etc.

CSA Adoption by farmers
Through development partner implementation
CSA-Plan:
A multi-step planning and implementation guide to scaling CSA
Situation Analysis
Risks and Enabling Conditions
Vulnerability & Impacts + Readiness

Targeting & Prioritizing
 Practices, Programs and Policies
Trade-offs & Value for Money

Program Support
Guidelines & Implementation
Knowledge into Action

Monitoring and Evaluation
Across Scales and Systems
Evidence Based Results Framework

Stocktaking for CSA Action
CSA Investment Portfolios
Taking CSA to Scale
Learning from Experience
Situation Analysis

Objective

Provide a brief yet comprehensive overview of the status of CSA activities and enabling environment in a given country

Contents

- National agricultural context
- Ongoing CSA practices and level of ‘climate-smartness’
- Identification of high interest practices for further investigation
- Institutional, policy, and financial entry points for scaling out CSA

Target Audience

- Government stakeholders
- Development agencies
- Non-governmental organizations
- Researchers & farmers
Stakeholder engagement

Information & Data gathering

Databases (FAOSTAT, WB, CSE, MEDD etc.)

Interviews (FONGS, ISRA, IED, ANCAR etc.)

Focus groups

Surveys
Climate-Smart Agriculture in Senegal

Climate-smart agriculture (CSA) considerations

Senegal’s economic growth strategy identifies agriculture as the key driver for poverty reduction and enhancement of food security in the country. Development plans for the agriculture sector need to account for the implications of greenhouse gas (GHG) emissions, particularly for the expansion of rice cultivation and livestock production.

Livestock represents a major source of GHG emissions, and there exist opportunities for enhancing pasture management and integrating vegetation to reduce emissions and improve land management practices.

The use of climate information has become integral to farmers' decision-making and farming practices.

Access to finance is limited for smallholder farmers and represents a significant barrier to adopting CSA practices.

The climate-smart agriculture (CSA) concept refers to an ambition to improve the integration of agriculture development and climate responsiveness. It 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 reduce emissions (CDM), and require planning to address tradeoffs and synergies between these three pillars: productivity, adaptation, and mitigation [1]. The priorities of different countries and stakeholders are reflected to achieve more efficient, effective, and equitable food systems that address challenges in environmental, social and economic dimensions across productive landscapes. While the concept is new and still evolving, many of the practices that make up CSA already exist worldwide and are used by farmers to cope with various production risks [2]. Mainstreaming CSA requires critical modeling of cropping and grazing systems for the future and of institutional and financial enabling for CSA adoption. This country profile provides a snapshot of a developing baseline created to facilitate discussion, both within countries and globally, about entry points for investing in CSA at scale.
The use of climate information has become integral to farmers decision-making and farming practices.

Access to finance is limited for smallholder farmers and represents a significant barrier to adopting CSA practices.
Food security and Nutrition

Agricultural area: 9,015,000 ha = 46% of total land area

Key crops for food security (% of total harvested area):
- 21.1% Groundnuts
- 19.6% Millet
- 4.2% Maize
- 3.8% Sorghum
- 3.1% Cowpeas
- 3% Rice paddy

Per capita food production variability:
- Senegal: 22
- Stability:
  - 2004: 22
  - 2006: 19
  - 2012: 14

Calories available (kcal/capita/day):
- ND Livestock products
- ND Crop products

Food security indicators (selection):
- 17% of children are underweight
- 9% of children are wasted
- 54% of household budget is spent on food
- 33% of total roads are paved

Changes in food aid (2012 vs 2011):
- ND Programme aid
- 628% Emergency aid

Food aid received by the country (metric tons):
- 3,814 Total

1 of 5 people is undernourished

* Takes into account aspects of affordability, availability, and quality
** Refers to the 109 countries included in the index
Climate Change and variability

Project Change in Temperature and Precipitation by 2030

* Maps prepared for Kenya (WB, CIAT. 2015)
Maure Composting for Fertilization (Livestock Silvo-pastoral)

Smartness categories & levels

- Food, income -
- Water, Soil, Risk, Energy -
- Carbon, Nitrogen -

CSA Practices smartness

- 10 to 10 scale

Adaptation
Contributes to reductions in on-farm organic waste and odors. Facilitates the elimination of pathogens. Can provide alternative on-farm heating sources

Mitigation
Contributes to reduced methane emissions upon aerobic composting

Productivity
Increases productivity (on medium and long term) as a result of enhanced soil health and fertility

- Food/Yield
- Risk/Information
- Income
- Energy
- Water
- Carbon
- Soil
- Nitrogen/Nutrient
Objective

Provide a participatory process for targeting investment portfolios towards best-bet CSA options contributing to optimized national and sub-national planning.

Target Audience

- Government stakeholders
- Development agencies
- Non-governmental organizations
- Researchers & Farmers

CSA Prioritization Framework

Ghana

Ethiopia

Ghana

Ethiopia

Targeting & Prioritizing
Filters for selecting CSA investment portfolios

- **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
**Selecting attributes to assess CSA interventions in Ethiopia**

**Phase 1**
- Establish Expert Group
- Geographic and Cropping System Scope
- CSA Attributes for Assessment
- Long list of applicable CSA interventions
- Identify stakeholders
- Assessment of interventions based on CSA attributes

<table>
<thead>
<tr>
<th>Attributes</th>
<th>CSA Pillar</th>
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<tbody>
<tr>
<td></td>
<td><strong>Productivity</strong></td>
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<td>Yield</td>
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<td>Income</td>
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<td>Variability</td>
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<td>Nutrition</td>
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Selecting attributes to assess CSA interventions in Ethiopia

<table>
<thead>
<tr>
<th>Category of practices</th>
<th>CROPS</th>
<th>LIVESTOCK</th>
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<tbody>
<tr>
<td>Genetic resources</td>
<td>Drought resistant and adapted varieties</td>
<td>Artificial insemination,</td>
</tr>
<tr>
<td>Agroforestry</td>
<td>Intercropped, Fruit trees, FMNR</td>
<td>Fodder shrubs, silvopastoral</td>
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<tr>
<td>Nutrient Management</td>
<td>ISFM, efficient use of Fertilizers</td>
<td>Improved feeding</td>
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<tr>
<td>Water Management</td>
<td>Drip-irrigation</td>
<td>Boreholes, pits</td>
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<tr>
<td>Soil and System Management</td>
<td>Conservation agriculture</td>
<td>Pasture management, Rotational grazing</td>
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<td>Pests and diseases</td>
<td>IPM</td>
<td>Vaccines</td>
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<tr>
<td>Postharvest</td>
<td>Harvest timing, improved technology,</td>
<td>Cold storage value chains</td>
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<td></td>
<td>simple technologies (small scale storage)</td>
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<tr>
<td>Energy</td>
<td>Biofuels</td>
<td>Biofuels, biogas</td>
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Next step

Phase 2

Attributes Assessment Survey
Cost-Benefit Analysis of CSA practices

Example: Agroforestry Incremental Net Benefit

USD

1. Identification of impacts
2. Physical quantification
3. Calculation of the flow of annual Net Benefits as the difference of annual Gross Benefits and costs
4. Calculation of the profitability measures: NPV and IRR
5. Sensitivity analysis

Example: Agroforestry Incremental Net Benefit

USD
<table>
<thead>
<tr>
<th>No.</th>
<th>Portfolio objectives</th>
<th>Included practices</th>
</tr>
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<tbody>
<tr>
<td>1</td>
<td>Increase income, food security and capacity to adapt to climate change</td>
<td>Compost production (on-farm)</td>
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<td></td>
<td></td>
<td>Contour bunds (for management of cultivated fields)</td>
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<tr>
<td></td>
<td></td>
<td>Improved varieties</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Intercropping (sorghum/cowpea)</td>
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<tr>
<td>2</td>
<td>Improve agricultural productivity and farmers’ incomes including rural women, to be able to address climate change challenges</td>
<td>Contour bunds (for management of cultivated fields)</td>
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<td></td>
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<td>Development of rice valleys</td>
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<td></td>
<td></td>
<td>Development and stocking of ponds</td>
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<tr>
<td></td>
<td></td>
<td>Improved varieties</td>
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**Situation Analysis**
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TAKE AWAY MESSAGES

• CSA Country Profiles provide an easy to digest assessment of opportunities to mainstream CSA within the national context. Also can be developed at the subnational level and across value chains.

• CCAFS CSA Prioritization Framework facilitates stakeholders in identifying investment portfolios aligned with stakeholder priorities. Opportunities to expand the approach to prioritize CSA interventions across the value chain.

• CSA Plan can support mainstreaming of CSA into policies and programs across decision-making levels for government, NGO/CSO, private sector and USAID (e.g. CDCS, PAD, portfolio review, etc.)
ADDITIONAL RESOURCES

• Climate-Smart Agriculture Investment Prioritization Framework

• Climate-Smart Agriculture Prioritization Framework (Concept Note)

• New Latin America country profiles open pathways for reaching climate-smart agriculture
Climate Smart Agriculture: Global Learning and Evidence Exchange

Session: Profiling Climate Smart Agriculture - Pathways, Prioritization, and Plans

Focus: Putting profile into plan and implementation
Profiling Climate Smart Agriculture - Pathways, Prioritization, and Plans

- Intended Nationally Determined Contributions (INDC)
  - Agriculture and the UNFCCC negotiations
  - Agriculture is prominent in the African INDCs
    - Climate smart agriculture
  - Most proposed interventions depend on the availability of external finance
Comprehensive Africa Agriculture Development Programme (CAADP)

A Guide for Implementors

1. Stocktaking Exercise and CAADP launch
2. Compact Signing
3. NAIP formulation
4. Independent technical Review
5. Business Meeting with Implementation Roadmap
6. Implementation and M&E

Present
Policies, Capacities, Investment Programs (PRSP, SWAPs, National Development Plans)

Improved
Policies, Capacities, Investment Programs (PRSP, SWAPs, National Development Plans)

Policies, Capacities, Programs for 6% agricultural growth

Assessment and Learning from Process and Practice

Adapting & Re-Planning

Development of Investment Programs & Partnerships & Alliances

Evidence-Based Analysis

Management with Stakeholders and Public

Next Cycle

3/16/2016
CAADP 2015-2025 RESULTS FRAMEWORK

Level 1 – Agriculture’s Contribution to Economic Growth and Inclusive Development

1.1 wealth creation
1.2 Food & Nutrition Security
1.3 Economic opportunities, poverty alleviation and shared prosperity
1.4 Resilience and sustainability

Level 2 – Agricultural Transformation and Sustained Inclusive Agricultural Growth

2.1 Increased agriculture production and productivity
2.2 Increased intra-African regional trade and better functioning of national & regional markets
2.3 Expanded local agro-industry and value chain development inclusive of women and youth
2.4 Increased resilience of livelihoods and improved management of risks in the agriculture sector
2.5 Improved management of natural resources for sustainable agriculture

Level 3 - Strengthening Systemic capacity to deliver results

3.1 Effective and inclusive policy design and implementation processes
3.2 Effective and accountable institutions including assessing implementation of policies and commitments
3.3 Strengthened capacity for evidence based planning, implementation & review
3.4 Improved multi-sectorial coordination, partnerships and mutual accountability in sectors related to agriculture
3.5 Increased public and private investments in agriculture
3.6 Increased capacity to generate, analyze and use data, information, knowledge and innovations

Impact to which agriculture contributes

Changes in African agriculture resulting from the CAADP implementation support

Added value of CAADP support to institutional transformation and systemic capacities
Integrating CSA in to Safety Net Program – Ethiopian experience

- Government of Ethiopia notes persistent food insecurity and ecological degradation remain a major problem in many parts of the country

- Rehabilitating degraded land as part of a strategy to build the resource base and reduce competition for natural resources

- Enhanced set of activities to strengthen the capacity of households to generate income and increase asset holdings

- Includes emergency response, climate adaptation and investment to support livelihood transformation
CSA for climate resilient landscape and household asset building

- Ensure that households in vulnerable areas are able to diversify their income sources and increase productive assets
- Build resilient social-ecological systems
• Productive safety nets help to create public goods by conserving the environment
• Important source of income for the poor during slack seasons
• Degraded land turned into grassy pasture land
• Favorable grass species have sprouted all over the area
• Massive soil movement owing to torrential rain was prevented
• Infiltration enhanced water table of springs
• The environment is being reclaimed.
• Assisted in the preparation and implementation of business plans using rotating loan fund from the Food Security programme budget

• Ensure that the business plans are the outcome of household decisions, not the supply-driven

• Grain reserves also used to protect households from distress sale of asset during drought
Thank you !!!!

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