

Prioritizing CSA The Case of CSA Plan and Kenya

Todd Rosenstock

Evan Girvetz, Christine Lamanna, Caitlin Corner-Dolloff and **many** others











How to stand out?

Martin Handford

Governments

Donors

Civil society

Private sector

Development partners

'CSA-Plan'

Entry points to support a transition toward CSA

Situation Analysis Risks and Enabling Conditions

Vulnerability & Impacts + Readiness

Targeting & Prioritizing Practices, Programs and Policies

Trade-offs & Value for Money

CSA Investment Portfolios

Stocktaking

for CSA

Action

Programming Design Guidelines & Implementation

Knowledge into Action

Taking CSA to Scale

Monitoring and Evaluation

Across Scales and Systems

Evidence Based Results Framework

Learning from Experience



CSA Country Profiles



Achieving global food security is challenged by continuous population growth mergine a 70% increase in food production by 250%, even before accounting to stampts to address underovaliment Bourisma 200%. Character charge is executioning these challenges by constraining future capacity to produce food globally heatces of uniterational and execution activity of the address of address and address and address and address and address 2011). With a multi-focus on productivity address has and existing and adjustivity address and address and address and address and adjustivity address and address and address and address and adjustivity address and address and address and address for productivity and income by building fam system' resilience, and where populare

What is Climate-Smart Agriculture?

Climate Smart Agriculture (CSA) has been defined as "agriculture that usutianably increases productivity, enhances resilience, reduces? removes greenhouse gas emissions, and enhances achievement of national food security and development goals" (FAO 2013). The goal of CSA is to create sustainable landicapes and build momentum towards food systems that are resilient to climate, which requires action across scalaes.

To achieve environmentally sustainable practices in economic development and apricultural expansion, CSA promotes triple-win options for food security: adaptation, and mitigation figure 11 that encomess socially and environmentally responsible agriculture. The approach can guide investment in agriculture development towards leng-term solutions that reduce smallholder famer vulnerability.

The ideal combination of CSA actions will vary from location to location. For this reason, site specific assessments are critical aspects of CSA implementation, identifying the most suitable actions for each agro-ecological and socioeconomic context.



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CSA Country Profiles



given their contribution to climate change (Foley et al. 2011; Tilman et al. 2011). With its multi-focus on productivity, adaptation, and mitigation, climate-smart agriculture responds to these challenges by facilitating increases on farm productivity and income by building farm systems' resilience, and where appropiate, reducing greenhouse gas emissions from agriculture

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CSA Compendium



A diverse range of factors limit adoption of CSA and need to be considered to match prac with places.

Climate-smart agriculture (CSA) is a systematic approach to agricultural development. It intends to address climate change and food security challenges simultaneously across levels, from field management to national policy, across levels, from held management to national policy, with goals to 1') improve food security and agricultural productivity, 2) increase the resilience of farming systems to climate change, and 3) miligate greenhouss gas (GHG) emissions or sequester carbon. After the introduction of the CSA concept in 2010, development organizations, national governments, and donors have quickly adopted a "climate-smart" agenda.

Why examine the climate-smartness of farm management practices?

Farm and field level management practices represent a key component of CSA. Farm level technologies represey component or cost. Faint even technologies repre-sent a broad category of direct activities farmers can un-dertake on their fields, in livestock husbandry, or through management of communal lands. Actions might include anything from adopting drought resistant crop varieties, to reducing stocking rates of animals, to changing harvest-ing and postharvest storage techniques. The vast number of farm level options that might meet CSA objectives coupled with the large number of possible outcomes that can fit under the three pillars of CSA has led many development practitioners, scientists, and government question 'what is CSA and what is not CSA''?

This question, however, presents a false choice. By definition CSA is context specific and subject to the priorities of farmers, communities, and governments where it is being implemented. Until now, little empirical evidence has been put forth to systematically evaluate what CSA has been put form to systematically evaluate what CSA practices work where. Instead, CSA is often supported with case studies, anecdotes, or aggregate data, which paint an incomplete picture of both the potential and chal-lenges of CSA.

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leading to food and nutrition security and poverty alleviation (yellow text) in the Uluguru Mountains, Tanzania. Photo: T. Rosenstock (ICRAF)

The lack of comprehensive information on CSA is not surprising, given its infancy as a concept and the fact that supporting, given is many as a concept and ineract that it includes a wide diversity of food system/rural livelihood solutions. In response, we have been conducting a quantitative review to evaluate the evidence on the effectiveness of management practices to achieve productivity, resilience, and mitigation objectives



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CSA Country Profiles



and current consumption patterns. It is estimated that global food demand will require a 70% increase in food production by 2000, reveal before accounting for attempts to address undemounthment (Bruinsma 2009, Climate damage is exactinising these challenges by constraining future cased/to peroduce food globally. Practices of internilication and expansion also need to be adapted, given their contribution to climate change Fioly et al. 2011; Tilman et al. 2011). Whit is multi-focus on productivity, adaptation, and mitigation, climatesamt agriculture responds to these challenges by fociating increases on furm productivity and income by building farm systemic relations, and where approprist, reducing greenhous gas are missions from agriculture.

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CSA Compendium

Info Note What is the scientific basis for climate-smart agriculture?

Preliminary findings from a quantitative synthesis of what works

Todd S. Rosenstock, Christine Lamanna, Aslihan Arslan, and Meryl Richards

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Key messages Quantitative syntheses generate an unbiased assessment on the potential of management practices to achieve CSA benefits. Syntergies among productivity, resilience and mitigation occur the majority of the time with CSA: however, trade-offs are also apparent.

 A diverse range of factors limit adoption of CSA and need to be considered to match practices with places

Cimate-smart approximate (25,4) is a systematic approach to approximate (26,4) and (26,4

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Climate Change, Agriculture and Food Security

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Figure 1. Examples of climate-smart practices (white leading to food and nutrition security and poverty alleviation (yellow text) in the Uluguru Mountains, Tanzania. Photo: T. Rosenstock (ICRAF).

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Computer assisted telephone interviews

Info Note

Surveillance of Climate-smart Agriculture for Nutrition (SCAN)

Innovations for monitoring climate, agriculture and nutrition at scale

Todd Rosenstock, Christine Lamanna, Brian DeRenzi, Sabrina Chesterman, Suneetha Kadiyala, Mary Ng'endo, Kayokwa Chibuye, Ngonidzashe Choga, and Mark van Wijk

JUNE 2010

Key messages
Climate change will affect the ability to deliver not only the quantity but also the type and quality of food necessary for nutritious diets

Global and regional climate-smart agriculture' initiatives offer an opportunity to mitigate climate impacts and improve nutrition outcomes at scale SCAN develops new ways to acquire, integrate and analyze data to help determine what is climate-smart and nutrition-sensitive

Climate change will affect apriculture and human nutrition in profound ways. Willowica adaptation, predicted changes in temperature, precipitation, seasonality and the frequency and severity of externer events have the potential to decrease crop and livesicolic production in the present of the second products and from and vegetable are particularly vulnerable. The most significant impacts are likely to coincidus, and from already struggling with chronic mainturition such as Sub-Shahara Artica. Climate change presents an existential crisis for nutrition-sensitive development and instatement and vegetable services and the second structure and structure of the observices of the second structure of already struggling with chronic mainture and structures are Povery and N-hunger. Recognition of these plausable scenarios has catalized the development of climate-senara agriculture for nutrition.

What is climate-smart agriculture?

Climate-smart agriculture (CSA) refers to agriculture and food systems that increase production, build realisence and attaptive capacity of food system and reduce emissions or sequester cathom—where appropriate in contrasts to previous development agendas, CSA integrates climate and development agendas, cost integrates the objectives and not the mechanisms to achieve them. This orientation means that CSA includes develope interventions ranging from the micro- to the macro-level such as improved feeding of cattle or agroforestry to extension services and markets, respectively. Emerging CSA partnerships and investments have the ambition to affect agricultural and nutrition outcomes at scale. For example, the Artican Union's New Economic

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scale. For example, the African Union's New Economic Partnership for Africa's Development (NEPAD) and the Global Alliance for Climate-Smart Agriculture (GACSA) and to reach 25 and 500 million smaltholder farmers with CSA, respectively. Simultaneously, billions of US doltars in investments are being planned to scale up CSA in Africa and Asia.



Figure 1. Kenyan farmer using a mobile phone to receive a seasonal weather forecast, an example of a CSA intervention. N. Palmer, CCAFS.

Why SCAN?

CSA intends to sustainably increase production and improve the resilience of lood systems under climate change. However, the evidence base on the linkages among climate, adjuctulture and nuttion (C-A-N) is complex and limited (Figure 2). With the rapid increases CSA programming list is essential to monitor and lease modes to under the evidence base, increase programming effectiveness and outcomes for famers.



Partner CSA-Plan	ΤοοΙ	Outcome
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Partner	CSA-Plan	Tool	Outcome
World Bank, GoK	Situation analysis	Country profiles	250 m USD investment

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GoK	Prioritizing and targeting	County risk profiles, CSA Prioritization Framework	County Development Plans
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One Acre Fund	Program design	Compendium	Refined process to design new products for farmers

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LSHTM, WFP	ME&L	RHoMIS, CATI	VAM program adopts CATI approaches to monitoring

Outcomes vs Science

ΤοοΙ	Outcome	Science
Country profiles	250 m USD investment	Karanja et al. in review (a,b)
County risk profiles, CSA-PF	County Development Plans	Andrieu et al. 2017 15 WP
Climate Wizard, Compendium	ACSAA Concept Note yields investments	Lamanna et al. in prep 2 WPs
Compendium	New insurance products	
Compendium	Refined process to design new products for farmers	Rosenstock et al. in prep + 4 papers planned
RHoMIS, CATI	VAM program adopts CATI approaches to monitoring	Rosenstock et al. 2017. COSUST Lamanna et al. in review. Scientific Report

Three Key Principles of P4S

• Show up...relationships matter.

False choice between science and outcomes.

• Let it ride.

THANK YOU

P4S thanks FLAGSHIP 2 and the following for financial support





from the Department for International Development

Adam Smith International







International Center for Tropical Agriculture Since 1967 Science to cultivate change RESEARCH PROGRAM ON Climate Change, Agriculture and Food Security



Science for a food-secure future



Analytical typology for targeting CSA investments



Tools that match the decision needs in terms of the questions, time, resources, rigor, and expertise available

Does partnerships compromise science?

CSA-Plan	Journal articles	WPs	Comms
Situation analysis		24 County Risk Profiles	
Prioritizing and targeting	Corner-Dolloff et al. 2017. Ag Systems Karanja et al. in review (a & b)	Lamanna et al. CCAFS 138	Lamanna et al. 2015. Bayesian Networks
Program design		Bell et al. in review	Rosenstock et al. 2015. Compendium
ME&L	Rosenstock et al. 2017 COSUST		Rosenstock et al. 2016. InfoNote
	Lamanna et al. in review Scientific Reports		Van Wijk et al. 2016. InfoNote

