PARTNERSHIPS FOR SCALING

CLIMATE SMART AGRICULTURE (P4S - CSA)

Prioritizing CSA
The Case of CSA Plan and Kenya

Todd Rosenstock

Evan Girvetz, Christine Lamanna, Caitlin Corner-Dolloff

and **many** others

World Agroforestry Centre

CGIAR

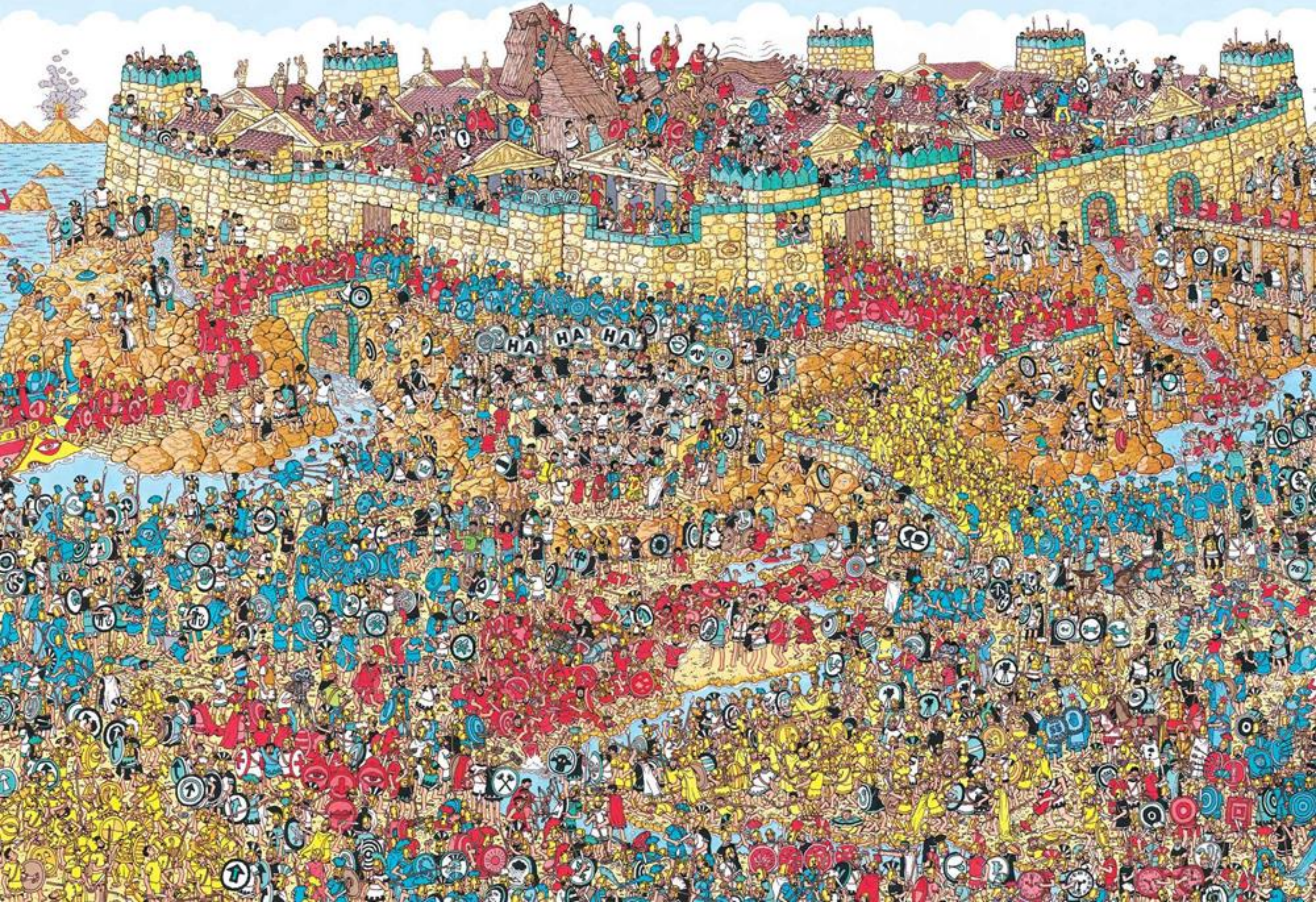
RESEARCH PROGRAM ON Climate Change, Agriculture and Food Security

CCAFS

CIAT International Center for Tropical Agriculture Since 1967 Science to cultivate change

How to stand out?

Martin Handford



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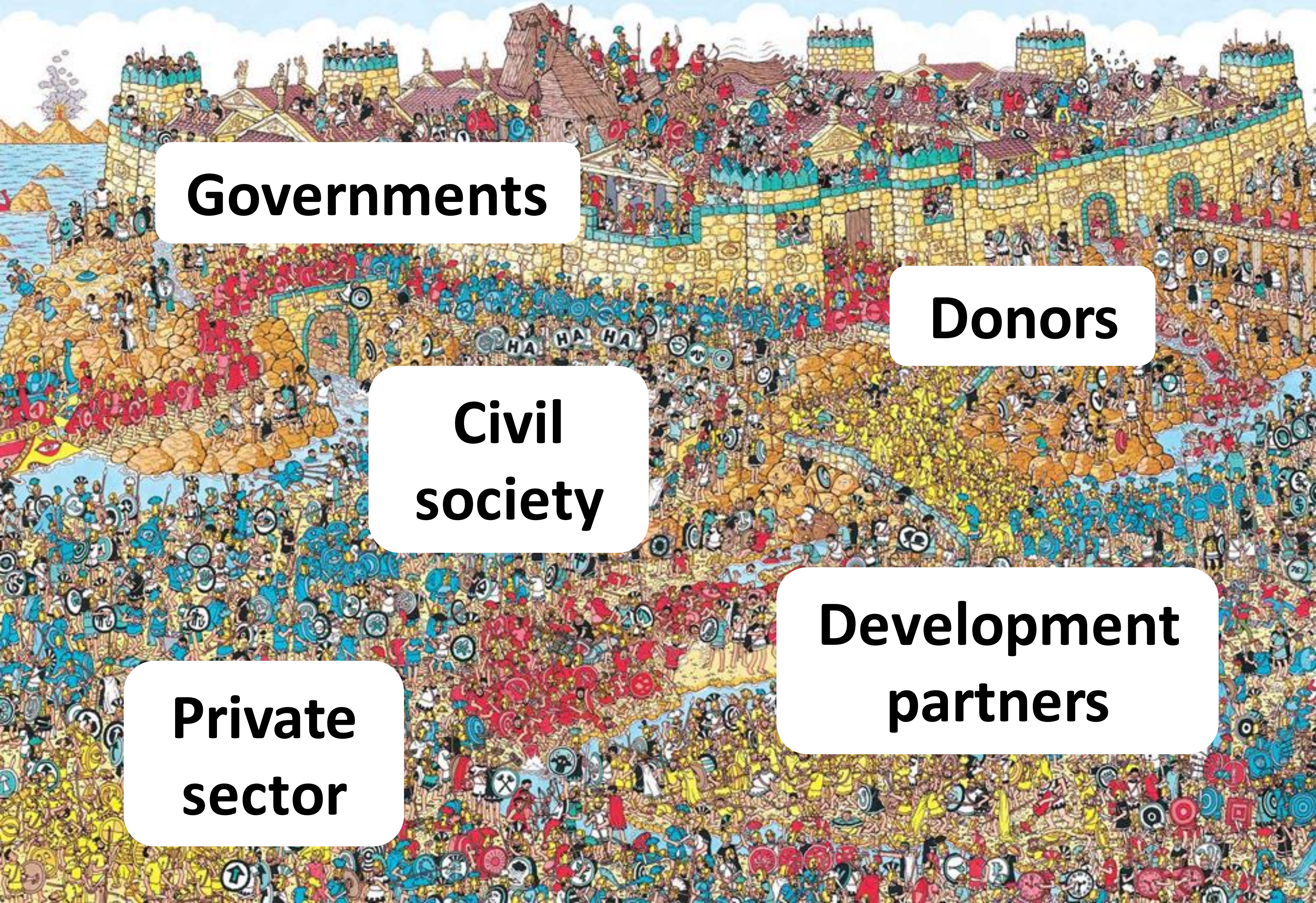

‘CSA-Plan’

Entry points to support a transition toward CSA

Situation Analysis
Risks and Enabling Conditions

Vulnerability & Impacts + Readiness

Stocktaking for CSA Action

Targeting & Prioritizing
Practices, Programs and Policies

Trade-offs & Value for Money

CSA Investment Portfolios

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

Rosenstock et al. 2016; Girvetz et al. 2017

www.wor

Select tools to support CSA Plan

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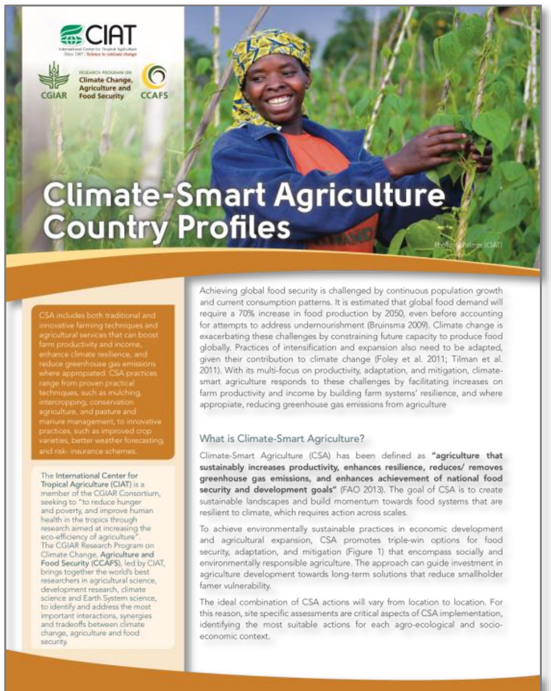
CSA Country Profiles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Climate-Smart Agriculture Country Profiles

CSA includes both traditional and innovative farming techniques and agricultural services that can boost farm productivity and income, enhance climate resilience, and reduce greenhouse gas emissions where appropiated. CSA practices range from proven practical techniques, such as mulching, intercropping, conservation agriculture, and pasture and manure management, to innovative practices, such as improved crop varieties, better weather forecasting, and risk- insurance schemes.

The **International Center for Tropical Agriculture (CIAT)** is a member of the CGIAR Consortium, seeking to "to reduce hunger and poverty, and improve human health in the tropics through research aimed at increasing the eco-efficiency of agriculture". The CGIAR Research Program on Climate Change, **Agriculture and Food Security (CCAFS)**, led by CIAT, brings together the world's best researchers in agricultural science, development research, climate science and Earth System science, to identify and address the most important interactions, synergies and tradeoffs between climate change, agriculture and food security.

Achieving global food security is challenged by continuous population growth and current consumption patterns. It is estimated that global food demand will require a 70% increase in food production by 2050, even before accounting for attempts to address undernourishment (Bruinsma 2009). Climate change is exacerbating these challenges by constraining future capacity to produce food globally. Practices of intensification and expansion also need to be adapted, 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

What is Climate-Smart Agriculture?

Climate-Smart Agriculture (CSA) has been defined as **"agriculture that sustainably 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 landscapes and build momentum towards food systems that are resilient to climate, which requires action across scales.

To achieve environmentally sustainable practices in economic development and agricultural expansion, CSA promotes triple-win options for food security, adaptation, and mitigation (Figure 1) that encompass socially and environmentally responsible agriculture. The approach can guide investment in agriculture development towards long-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 socio-economic context.

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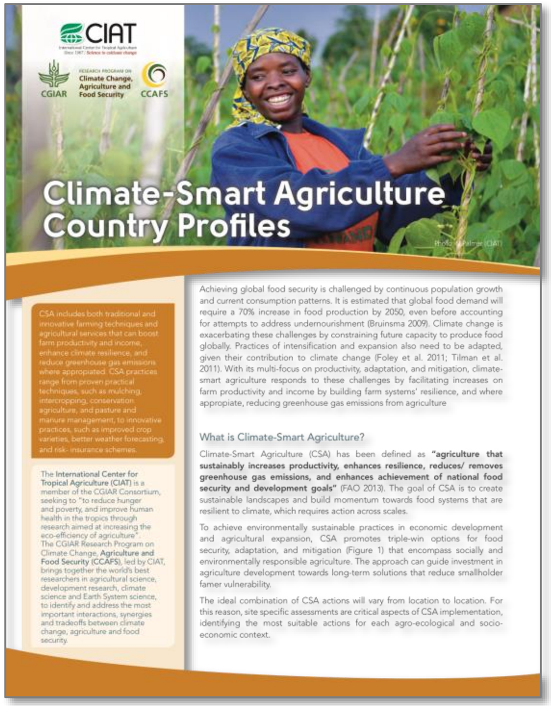
Select tools to support CSA Plan

CSA Country Profiles



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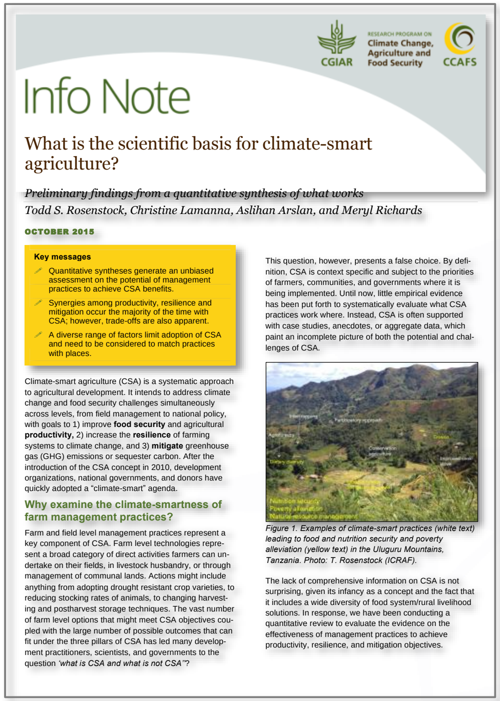
CSA Compendium



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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

OCTOBER 2015

Key messages

- Quantitative syntheses generate an unbiased assessment on the potential of management practices to achieve CSA benefits.
- Synergies 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.

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, with goals to 1) improve **food security** and agricultural **productivity,** 2) increase the **resilience** of farming systems to climate change, and 3) **mitigate** greenhouse 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 represent a broad category of direct activities farmers can undertake 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 harvesting 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 governments to the 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 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 challenges of CSA.

Figure 1. Examples of climate-smart practices (white text) 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 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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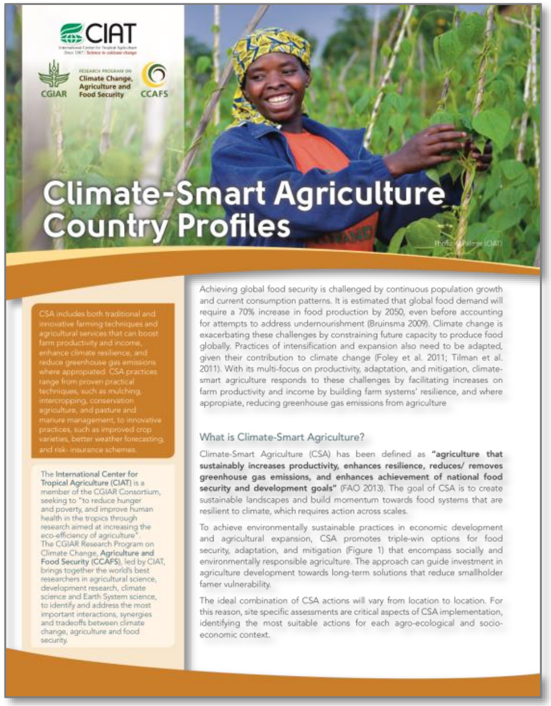
Select tools to support CSA Plan

CSA Country Profiles



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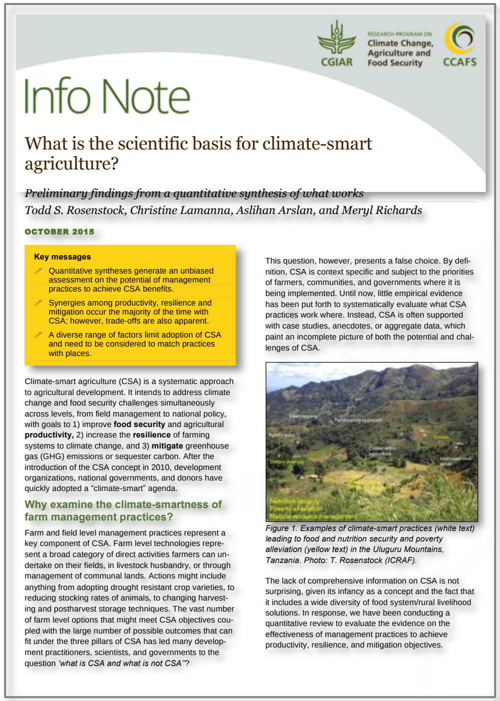
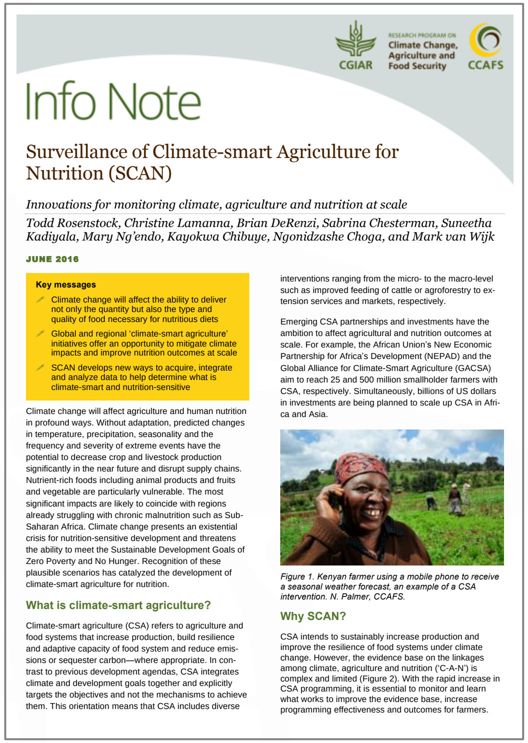


Computer assisted telephone interviews



Science matches partners and questions…

Partner	CSA-Plan	Tool	Outcome

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Alliance for CSA (ACSAA)	Prioritizing and targeting	Climate Wizard, Compendium	ACSAA Concept Note yields investments

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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

Tool	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

FAO FIAT PANIS

UNITED STATES AGENCY INTERNATIONAL DEVELOPMENT USAID

WFP

FOREIGN AGRICULTURAL SERVICE USDA

UKaid from the Department for International Development

Adam Smith International

World Agroforestry Centre

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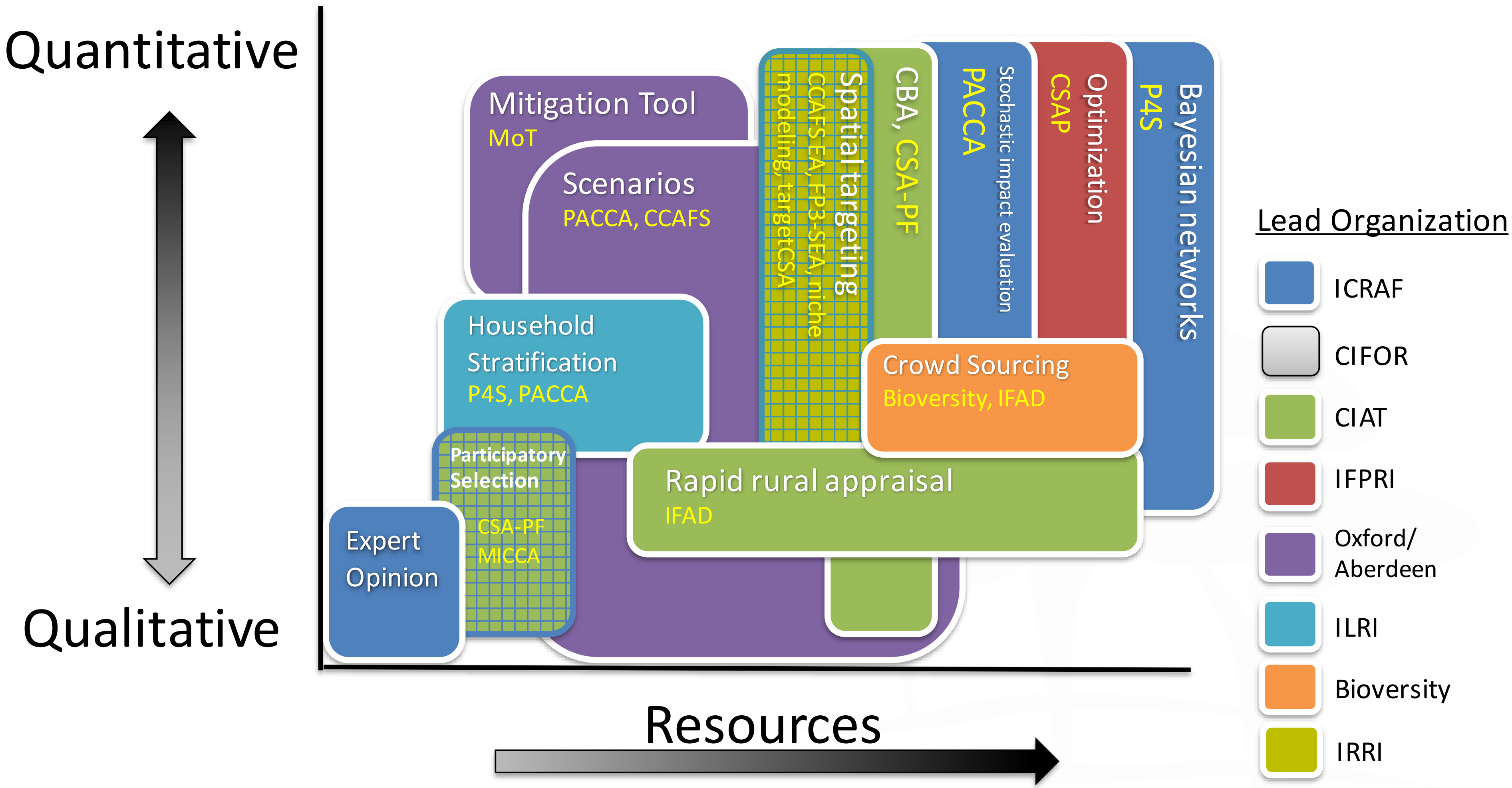
Analytical typology for targeting CSA investments



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 Lamanna et al. in review Scientific Reports		Rosenstock et al. 2016. InfoNote Van Wijk et al. 2016. InfoNote

Outcomes vs. Science