Climate-smart agriculture measurement, reporting and verification in the Republic of Zambia

KEY MESSAGES

- Zambia has mainstreamed climate-smart agriculture (CSA) into development and climate change policies;
- The outcomes of CSA in these programmes are not being clearly tracked, which means they do not count toward national development and climate goals and are not integrated into budgetary processes; and
- Stakeholders from government, NGOs and donors are in alignment on the need to improve monitoring and evaluation of CSA by agreeing on key indicators, building human capacity and securing reliable financing.

Photo credit: Charlie Pye-Smith

Introduction

Although agriculture accounts for only 8.2% of the Republic of Zambia's gross domestic product (GDP), almost half of the country's economically active population works in the sector. Climate change poses a grave risk to the growth and sustainability of Zambian agriculture. Since 1960 average temperatures have increased 1.3° C, and average rainfall has decreased 1.9 mm/month in main agricultural regions, while increasing in other areas.

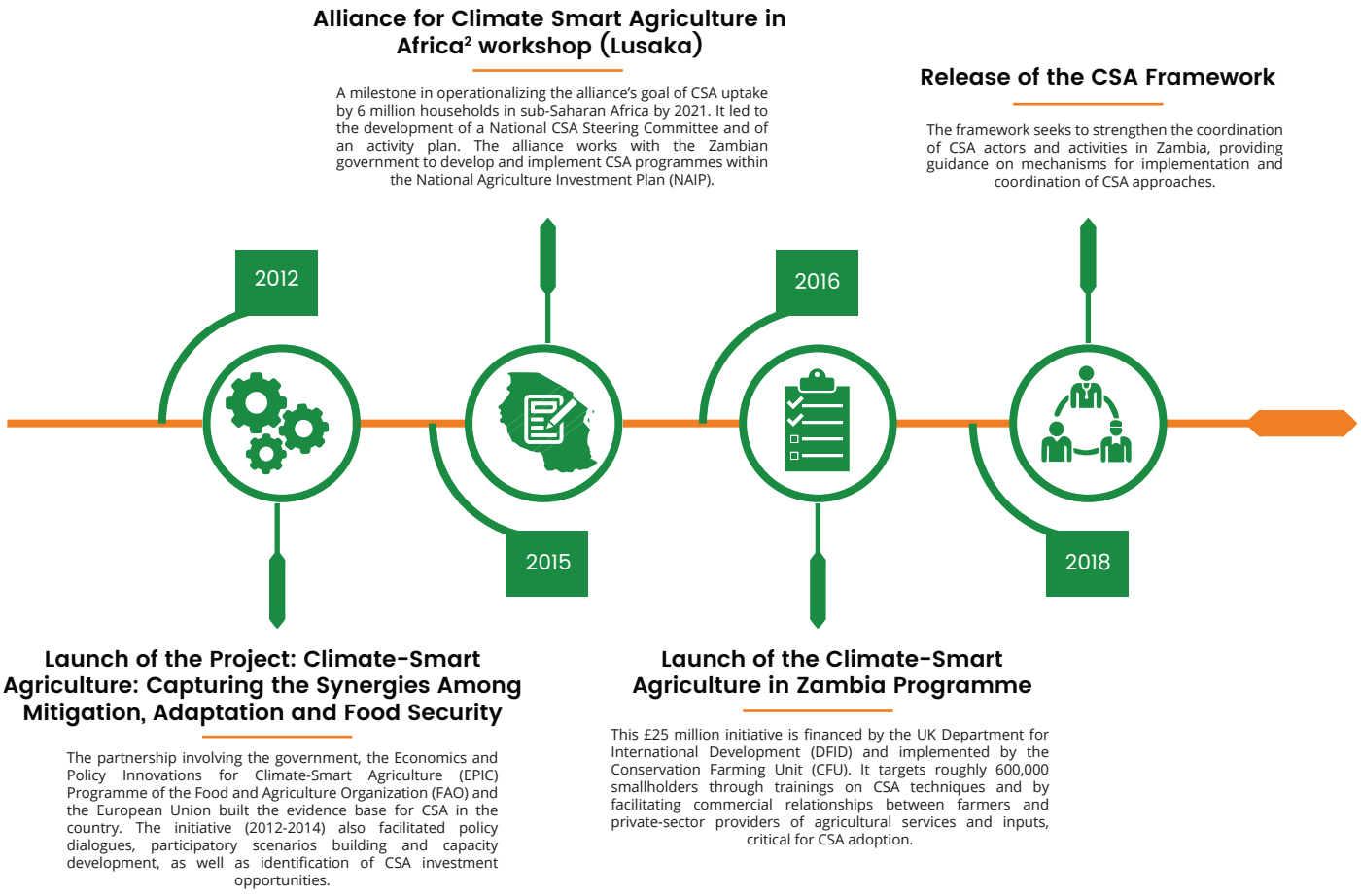
Zambia has taken many steps to address these concerns. Since 2011 at least ten policies, programmes and projects relevant to CSA have been implemented by the government and development partners (see figure 1 and table 1). Outcomes from CSA actions, however, have not yet been tracked or reported in a coordinated way. As a result, CSA outcomes do not count toward national development and climate goals, and CSA is not explicitly integrated into budgetary processes.

This Zambia Climate-Smart Agriculture Measurement, Reporting and Verification (MRV) Profile ('The Profile') seeks to improve this situation. To produce it, a research team comprising staff from Zambia's Ministry of Agriculture, Vuna and the World Agroforestry Centre (ICRAF) interviewed stakeholders representing 20 government institutions, development partners, NGOs and institutions of higher learning and research. This Profile synthesizes the conversations and a subsequent validation workshop that outlined steps toward an action plan. Specifically, the Profile identifies the needs of various stakeholders, explains challenges and opportunities of CSA alignment with existing monitoring and evaluation (M&E)[1] systems in the country, presents a validated results framework (with indicators), and then sets out an action plan to strengthen the ability of M&E systems to meet stakeholders' information needs.

The Profile is written for three audiences: (i) government institutions seeking opportunities to improve M&E; (ii) development partners targeting support to specific capacity needs; and (iii) CSA programmes collecting data on indicators relevant to national objectives and needs. The Profile is also relevant more broadly to actors working in the agricultural development and environment sectors who seek insight on M&E of development initiatives.

1 Measurement, reporting and verification (MRV) is a term used within the UNFCCC referring to information flows on countries' progress in meeting the objectives of the convention. National statistical systems and M&E systems are the basis for international MRV. Since most stakeholders' information needs refer to domestic policy processes, this profile uses the term M&E, which most stakeholders are more familiar with.

Figure 1. Selected major Climate-Smart Agriculture (CSA) events in Zambia.



Policy and institutional context

Zambia is among the countries at the forefront of mainstreaming CSA into policy. Zambia's 7th National Development Plan (7NDP) emphasizes the importance of CSA as both an option to meet goals and one of the main outcomes of plan implementation. The country's current National Policy on Climate Change (NPCC) mentions CSA as one of its key measures, and its Nationally Determined Contribution (NDC) also promotes climate-smart crop and livestock practices.

Zambia recently produced a national CSA Framework. The document is intended to ensure coherence among policies and programmes, helping to build links with regional and international programmes such as Zambia Vision 2030, the NAIP, the 7NDP and the NPCC. The framework focuses on two goals: (1) sustainably increasing agricultural productivity and incomes (in line with Zambia's vision to become prosperous by 2030); and (2) adapting and building resilience to climate change, with mitigation as a co-benefit. The framework identifies 38 CSA technologies, ranging from disseminating climate information to improving crop-management practices. The draft framework itself does not have an M&E plan, but it does mention the need for a comprehensive plan that includes simplified metrics and frameworks, as well as capacity building.

There are also many other policy initiatives relevant to CSA action in Zambia (table 1, annex 1). Each sets out various measures that could be said to contribute to at least one of the CSA pillars. Explicit links to CSA are evident only in policy efforts that follow the NDC, which lays out Zambia's commitments under the Paris Agreements, and the Reducing Deforestation and Forest Degradation (REDD+) strategy, which recognizes the importance of CSA practices such as conservation agriculture and agroforestry. Except for the NAIP, the 7NDP and the National Climate Change Response Strategy, Zambia's plans and policies either do not set out specific M&E systems or rely on M&E systems that have been only partially developed. Most policies state that a comprehensive M&E framework will be developed, but these have not yet been put in place. Responsibilities to implement and monitor these

2 The alliance comprises the New Partnership for Africa's Development (NEPAD), international NGOs (Care, Oxfam, World Vision, Catholic Relief Services and Concern Worldwide), African regional institutions (Common Market for Eastern and Southern Africa [COMESA], Economic Community of West African States [ECOWAS], Pan-African Farmers' Organization) and technical partners (CGIAR Research Program on Climate Change, Agriculture and Food Security [CCAFS], Food, Agriculture and Natural Resources Policy Analysis Network {FANRPAN], FAO and Forum for Agricultural Research in Africa [FARA]).

policies rest with various ministries, departments and agencies. The Council of Ministers is the highest decision-making body overseeing climate change interventions in the country, including providing guidance on M&E reports. The Steering Committee of Permanent Secretaries is the main advisory body to the Council of Ministers, with specific responsibility for M&E of policy and coordination of international agreements falling to the Ministry of National Development Planning and the Ministry of Lands and Natural Resources. Meanwhile the Ministry of Agriculture is responsible for implementation of national agricultural investment plans. These distinct responsibilities illustrate the need for coordination among institutions in establishing M&E of CSA.

Roles, needs and capacity

The analysis identified 26 stakeholders in CSA, of whom 24 had a medium to high influence on implementation of the CSA Framework (annex 2). These 24 stakeholders represented government, donors (including African Development Bank and World Bank), NGOs (including World Vision and Care) and research institutes (including Kasisi Agricultural Training School). Most government agencies use M&E for policy, support or finance, planning, implementation and reporting. Donors, research institutes and NGOs use information from M&E systems for a range of purposes (see annex 3). Thus, high-quality M&E serves a number of purposes for government and other stakeholders.

Table 1. Policies relevant to CSA action in Zambia.

YEAR	POLICY	ARE ACTIVITIES PROMOTED IN THE POLICY RELEVANT TO CSA PILLARS?			DOES THE POLICY PROMOTE CSA MEASURES?	IS CSA MENTIONED?	DOES THE POLICY / PROGRAMME HAVE AN M&E SYSTEM
		PRODUCTIVITY	RESILIENCE	MITIGATION			
2018	Climate-Smart Agriculture (CSA) Framework Climate-Smart Agriculture (CSA)	yes / fully relevant	yes / fully relevant	yes / fully relevant	yes / fully relevant	yes / fully relevant	no / not at all
2017	Seventh National Development Plan (7NDP) (2017-2021) ECONOMIC GROWTH; PRODUCTIVITY	yes / fully relevant	partially / not always	no / not at all	no / not at all	no / not at all	yes / fully relevant
2016	National Policy on Climate Change (NPCC) CLIMATE	no / not at all	yes / fully relevant	no / not at all	partially / not always	no / not at all	no / not at all
2015	Intended Nationally Determined Contributions (INDC) (2015-2030) CLIMATE CHANGE, AGRICULTURE	no / not at all	yes / fully relevant	yes / fully relevant	yes / fully relevant	yes / fully relevant	no / not at all
2013	National Agricultural Investment Plan (NAIP) (2014-2018) ECONOMIC GROWTH; FOOD SECURITY	yes / fully relevant	yes / fully relevant	no / not at all	yes / fully relevant	no / not at all	yes / fully relevant
2011, 2016	First and Second National Agricultural Policy (NAP & SNAP) AGRICULTURE, FOOD SECURITY; CLIMATE	yes / fully relevant	yes / fully relevant	no / not at all	yes / fully relevant	no / not at all	no / not at all
2010	Reducing Emissions from Deforestation and Degradation (REDD+) Strategy CLIMATE CHANGE; RESILIENCE	no / not at all	yes / fully relevant	yes / fully relevant	yes / fully relevant	yes / fully relevant	yes / fully relevant
2010	National Climate Change Response Strategy (NCCRS) CLIMATE CHANGE, RESILIENCE, DISASTER RISK REDUCTION (DRR), MITIGATION	no / not at all	yes / fully relevant	yes / fully relevant	yes / fully relevant	no / not at all	yes / fully relevant
2007	National Adaptation Programme of Action (NAPA) CLIMATE CHANGE, RESILIENCE	yes / fully relevant	yes / fully relevant	no / not at all	yes / fully relevant	no / not at all	no / not at all

Needs for CSA M&E

Stakeholders identified 78 specific information needs that should be covered through M&E (annex 4). These needs have been met to varying degrees, as discussed below.

Fully met needs: More than a third of the needs (31 out of 78) are fully met by existing M&E systems. The vast majority of met needs were identified by non-government initiatives (such as Musika and Conservation Farming Unit [CFU]) that implement organizational or project-based M&E systems that deliver on their information needs.

Partially met needs: Only 8% of the identified information needs (6 out of 78) are partially met. These partially met needs were all identified by the Ministry of Gender, which receives information on indicators of interest from NGOs, such as Musika and CFU, but which lacks comprehensive information from other CSA initiatives.

Unmet needs: More than half of the information needs (41 out of 78) identified by stakeholders are entirely unmet (see table 2). Government stakeholders primarily need M&E for domestic policy purposes, indicating that the collection of reliable information could directly lead to improvements in policy formulation and implementation (table 2).

Many of the M&E needs expressed by government agencies were also cited by non-government stakeholders and research institutes. These refer primarily to activities (actors engaged in promoting CSA and related projects), outputs (farmers adopting CSA practices) and outcomes (impacts of CSA interventions on various livelihoods objectives). This suggests that the most efficient CSA M&E system would be one that integrates the information needs of both government and non-government stakeholders and promotes data sharing among the stakeholders.

Table 2. Climate-Smart Agriculture (CSA) information needs currently not met by existing M&E systems, grouped by domain and theme. For a detailed account of the 41 indicators suggested by all stakeholders engaged in the study, see annex 4.

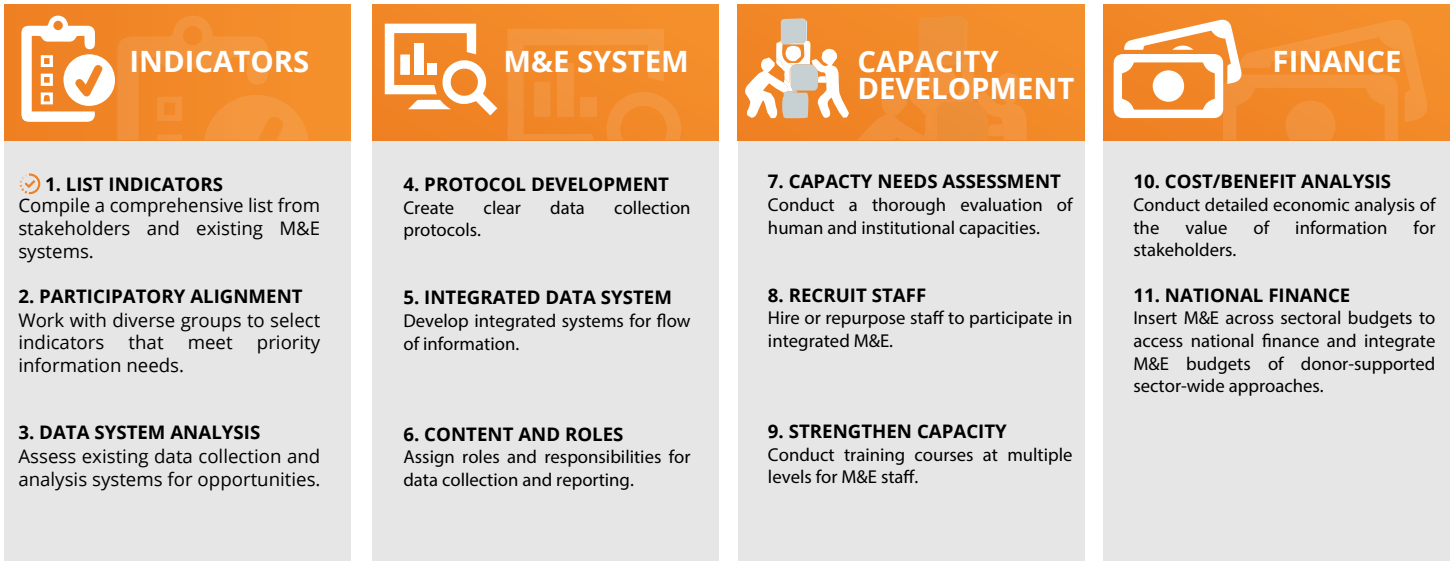
Domain	Suggested indicators to cover unmet information needs	Stakeholders interested	Benefits of having better data from M&E
Inputs	Number of organizations that have applied for CSA projects	NWK Agri-Services Zambia (NWK Zambia)	Determine the level of stakeholder interest
	Number of CSA technologies developed	Zambia Agriculture Research Institute (ZARI)	Enhance technology assessment
Activities	Number of organizations/institutions promoting CSA	Ministry of Agriculture; Zambia Agriculture Research Institute (ZARI); Alliance for Climate Smart Agriculture in Africa (ACSAA)	Integrate into ministry plans; plan for technology dissemination, upscaling and collaboration opportunities
	Number of platforms established/created on CSA	NWK Agri-Services Zambia	Determine the extent of collaboration on CSA
	Number of CSA training and demo plots	NWK Agri-Services Zambia;	Track progress in promoting CSA
Outputs	Number of farmers practicing CSA	Ministry of Fisheries and Livestock (MoFL)	Enhance technology adoption
	Area under CSA	NWK Agri-Services Zambia; Zambia Agriculture Research Institute (ZARI);	Enhance technology adoption
Outcomes	Socioeconomic status of CSA beneficiaries	Ministry of Gender NWK Agri-Services Zambia; Zambia Agriculture Research Institute (ZARI);	Assess resilience of women and men and the effectiveness of CSA more broadly
	Percentage change in animal health	Ministry of Gender; Zambia Agriculture Research Institute (ZARI); Ministry of Fisheries and Livestock (MoFL)	Plan for CSA upscaling

Towards a national integrated system for CSA MRV

Stakeholders from government entities, NGOs and research institutes agreed that a national integrated system would provide a broad picture of national progress and fill critical information needs. However, in contrast to other countries that we assessed, there was not much discussion about how existing systems could be used as the basis for building a national M&E system. Instead, stakeholders interviewed for this Profile preferred to create and validate an integrated CSA-specific results framework (annex 5). The proposed results framework for CSA in Zambia covers 16 outcomes ranging from adoption of CSA to private-sector engagement. It suggests 114 indicators for monitoring and target values for most of these indicators, which were based on existing policies and plans. During the short timeframe available for this Profile, it was not possible to further elaborate M&E systems that could implement the CSA results framework. However, based on the general framework emerging from CSA MRV in other Vuna countries, a number of follow-up actions can be outlined that together set out a pathway for developing an operational CSA M&E system in Zambia (figure 3).

In developing the integrated national CSA M&E system, it will be important to focus initially on a limited set of indicators that meet more than one stakeholder's information needs and where capacities for related M&E activities are stronger. It will also be important to assess existing M&E systems and information-sharing channels in order to identify institutions, systems and processes that can provide a basis for implementation of the CSA results framework. Such an assessment will help avoid the unnecessary (and costly) replication of existing systems, and also ensure that CSA M&E is integrated into institutional processes so that it does not create an additional burden.

Figure 3. Steps toward nationally integrated CSA MRV in Zambia. Activities can run simultaneously.



Notes: = Steps where some progress is being made.

Outlook

The assessment shows that there is political will and shared interest in improved CSA M&E in Zambia. Indeed, the actors in Zambia are well aligned on the topic already. This effort made great strides and was able to develop and validate a CSA results framework. However, this is only one step in creating an operational and effective M&E system for CSA. Key actions going forward will include: deciding on a limited set of key indicators that can be monitored; creating a database that can be integrated with existing systems to track progress; building the human capacity to collect the required data and operate the M&E systems; and securing reliable sources of financing so that the crucial information can be collected and analyzed.

Acknowledgements

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