Submission on indicators of adaptation and resilience at the national and/or local level or for specific sectors[1]

from the International Center for Tropical Agriculture (CIAT) on behalf of the CGIAR Research Program on Climate Change, Agriculture and Food Security (CCAFS):

The multi-scale Smart Monitoring system: tracking the adoption of Climate-Smart Agricultural options and associated effects on farm performance, households' food security and resilience.

We thank you in advance for filling out this template with concise, evidence-based information and for referencing all relevant sources. As you will see on the last page of the document, more detailed information on case studies, tools/methods and other knowledge resources for dissemination through the Adaptation Knowledge Portal is welcome, but optional.

Name of the organization or entity:

CGIAR Research Program on Climate Change, Agriculture and Food Security (CCAFS) led by the International Center for Tropical Agriculture (CIAT)

Type of organization/entity:

Please choose as appropriate:

- ☐ Local government/ municipal authority
- ☐ Intergovernmental organization (IGO)
- ☐ National/public entity
- ☐ Non-governmental organization (NGO)
- ☐ Private sector
- ☐ Regional center/network/initiative
- ☒ Research institution
- ☐ UN and affiliated organization
- ☐ University/education/training organization

Scale of operation:

- ☒ Local
- ☒ National

Specific sectors addressed:

- ☐ Adaptation finance
- ☒ Agriculture
- ☐ Biodiversity
- ☐ Community-based adaptation
- ☐ Disaster risk reduction
- ☐ Ecosystem-based adaptation
- ☐ Ecosystems
- ☒ Gender
- ☐ Health
- ☐ Heavy industry
- ☐ Human settlements
- ☐ Indigenous and traditional knowledge
- ☐ Infrastructure

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[1] FCCC/SBSTA/2016/2, paragraph 18.

☐ Energy
☒ Food security
☐ Water resources
☐ Services
☐ Tourism
☐ Urban resilience
☐ Other (Please specify below)

City(ies)/Country(ies)/Region(s) of operation (if appropriate):

CCAFS operates from farm to global levels covering 5 priority regions and focal 22 countries:

- East Africa: Kenya, Uganda, Tanzania, Ethiopia, Rwanda
- West Africa: Senegal, Mali, Burkina Faso, Niger, Ghana
- South Asia: Bangladesh, Nepal, India
- South East Asia: Vietnam, Laos, Cambodia, Philippines
- Latin America: Colombia, Guatemala, Salvador, Nicaragua, Honduras

It also carries out Participatory Action Research and climate-smart agricultural options evaluations across 36 Climate-Smart AR4D sites located in 20 of these countries.

Description of relevant activities/processes or research:

Please describe the activities/processes that your entity has implemented in relation to indicators of adaptation and resilience. In case your organization carried out research, please describe it.

Climate-Smart Agriculture (CSA) is emerging as a mechanism for coherent and coordinated action where objectives of climate change adaptation and mitigation add to the already existing multi-objective decision-making processes from the **agriculture and development sectors**. Acting across levels, CSA ultimately aims to help smallholder farmers sustainably increase *productivity*, build ***resilience to climate variability and change*** and mitigate climate change—where possible.

Over the past years, wide range of both political and non-state actors have adopted the CSA concept and have mobilized toward action on CSA establishing ambitious targets (The Africa Climate-Smart Agriculture Alliance 2014[2], NEPAD's 2014 Agriculture and Climate Change Program "25 by 25"[3], Global Alliance for Climate-Smart Agriculture, 2014[4])

Nevertheless, when it comes to the monitoring that is needed to guide implementation and support efficient investment, uncertainty due to the lack of evidence- base on the performance of CSA options (agricultural practices, technologies and services) and the CSA complexity are still major challenges to be overcome. This complexity streams from the diversity of: plausible interventions going from micro to macro level, farming systems and households and, objectives/ potential outcomes of success.

[2] 6 million smallholder farm households practicing CSA by 2021.

[3] Working with the Comprehensive African Agricultural Development Program (CAADP), AU-NEPAD has set a goal of supporting at least 25 million farm families to adopt and practice Climate Smart Agriculture (CSA) by the year 2025

[4] 500 million farmers enabled to practice CSA by 2030.

Thought its *Climate-Smart Village AR4D approach*, the CGIAR Research program on Climate Change, Agriculture and Food Security (CCAFS) is aiming to contribute addressing this challenges and filling the knowledge gap on identifying proven and effective CSA options, assessing their impacts on households livelihoods, resilience and adaptive capacity, and understanding enabling environments required for scaling them out/up across a wide range of socio-economical contexts and agro-ecologies. On-farm participatory action research, it's been carried out across 36 Climate-Smart Village (CSV) sites involving, among others, testing and evaluating more than 50 site-specific CSA options (e.g. climate-adapted germplasm, conservation agriculture, agroforestry, aquaculture, water harvesting, soil and water management options, livestock nutrition), for increasing farm productivity and households resilience in the face of climate variability and change while decreasing greenhouse gas emissions.

In this context and more broadly in the CSA arena, there is a high demand for a **CSA-tailored Monitoring instrument** that enable to track simultaneously, the **multi-dimensional impacts** of CSA options implementation **at both the household and farm levels**. To this end, early 2017 CCAFS undertook a specific effort to design a robust**,** cost effective and ICT-based **multi-scale Climate-Smart Village Monitoring Plan** that could be rapidly, reliably and systematically (though flexibly) displayed annually worldwide**.**

This plan was design to addressed two specific objectives: Bridging the gap on science-based evidence on CSA options performance and outcomes, and developing standard metrics to be applied at distinct levels: Practice/Plot, Farm, Household and Community.

1. **At the practice level** a common set of **minimum indicators** was selected to evaluate their performance (relative to a control or conventional practice) on the three CSA dimensions/pillars (Productivity/Food Security, Adaptation and Mitigation).

2. To address CSA performance **at the farm level** a new tool was developed: the ***CSA-Cool Farm Calculator*** is a whole farm model allowing a prospective assessment of the trade-offs related to implementing CSA technologies at farm level.

3. To track the **impact of CSA options on households' livelihoods and resilience**, survey questions were framed tied to relevant indicators following **the 5Q approach.** This approach

consist on keeping monitoring simple but smart by using short sets of questions asked more frequently to farmers and by leveraging ICT for massive and cost-effective data collection.

4. To build an evidence base at **the Community level** we also used the **5Q approach** to examine CSA farmers' adoption/dis-adoption trends and the enabling/disabling factors influencing decision making (financial, technical /operational, social).

All four levels, have a minimum set of indicators to be simultaneously tracked to cover the Productivity/Food Security/Income, the Adaptation/Resilience and (at farm level) the Mitigation aspects of CSA (Details in next section).

The selection of key indicators build upon the specific scope of the Monitoring exercise (bridging the gap on evidence on CSA options) and a large literature review including the initial CCAFS Baseline surveys (collected in 2010/11 in South Asia, West and East Africa and 2014/15 in Latin America and Southeast Asia), The Rural Household Multi-Indicator Survey (RHoMIS) and the CSA Programming and Indicator Tool Database, among others.

Description of relevant tools/methods:

Please describe the tools and/or methods that have been developed and/or used.

1. In the CSV Monitoring Plan a set of core indicators are suggested to be applied in field based research to evaluate CSA option(s) effectiveness compared to conventional practices:

Pillar	Indicator *(compared to control/ conventional practice)*	Metrics
Productivity	Yield	*Crop/Livestock production unit per Ha*
	Cost/Benefit Analysis	
Adaptation	Inter-annual variation of yield	*Percentage*
	Reduction in yield losses	*Percentage*
	Water use efficiency (*when applicable)*	*Ratio*
	Nutrient use efficiency	*Ratio*
Mitigation	Amount of carbon sequestered	$CO_{2\,eq}$ *per ha/kg*
	Amount of GHG emitted	$CO_{2\,eq}$ *per ha/kg*[BO(1]

To address the farm, household and community levels, two instruments with associated metrics were developed and are detailed below:

1. Development of the "CSA Cool farm calculator tool"

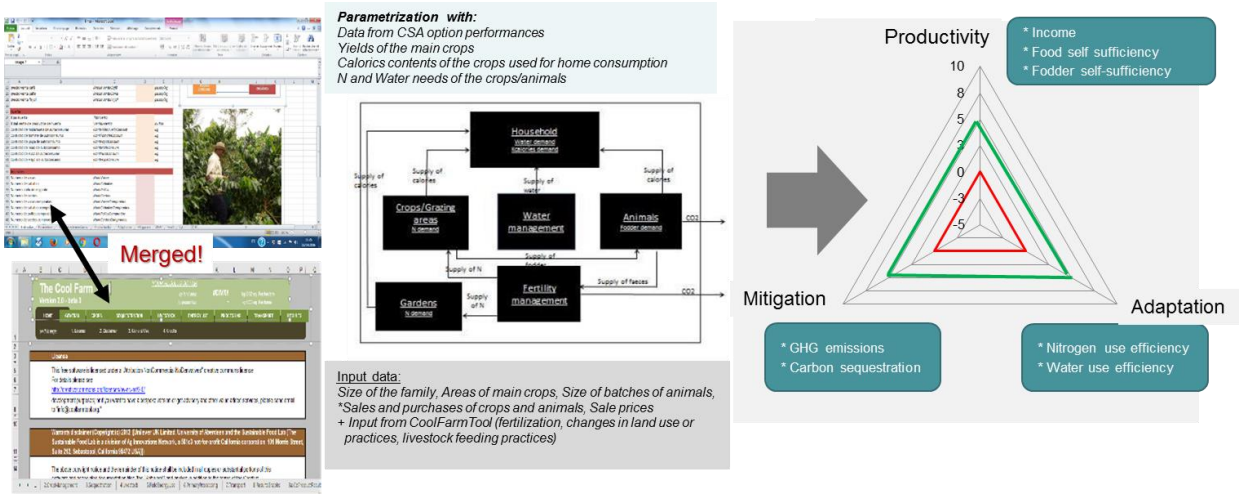
The CSA Cool farm calculator links CSA indicators (related to Productivity/Food Security, Adaptation, and Mitigation) with management practices and resource flow analysis (fodder, food, nutrient, water, cash) at the farm level. Building on the CoolFarmTool (version 2.0 Beta3) - a whole farm model intended to quantify both carbon emissions sources and sinks and (sequestration) - for its mitigation dimension, the CSA calculator was extended to also include indicators related to the two other CSA pillars (Productivity and Adaptation).

Main indicators to evaluate synergies and tradeoffs of CSA portfolios of practices implemented at Farm level (compared to conventional management) are:

Pillar	Indicador	Metrics
Productivity	Caloric ratio of the farm (%)	Caloric supply/Caloric demand x 100
	Fodder ratio of the farm (%)	Fodder supply/Fodder demand x 100
	Cost benefit ratio (%)	Benefit/Cost x 100
Adaptation	Biodiversity index (%)	Based on Gobbi, J., Casasola, F., 2003.
	Water balance (%)	Water supply/water demand x 100
	Nutrient balance (%)	Nutrient supply/nutrient demand x 100
Mitigation	Emission/Sequestration of CO_2	CoolFarmTool

Limited in number to remain operational and enable quick assessments, this core indicators aggregate biophysical results at the farm level to inform stakeholders about the outcomes that can be expected from implementing CSA practices, their trade-offs and synergies.
Developed in Excel the tool does not require specific programming skills.

General structure of the CSA Cool farm calculator:



To use the CSA calculator, farmers have to fill the following data that are data that can be easily quantified: size of the family, CSA practices currently tested, areas of the main crops, number of animals (per batch, sales and purchases), amount of fertilizers used, management of crop residues. The tool can be used to compare two scenarios: before/after adoption of portfolios of practices or for an ex-ante exploration of potential entry points to shift trade-offs among CSA pillars (by modifying specific practices themselves, selecting alternative practices or modifying farming system characteristics).

2. The 5Q approach is used to develop the Smart-Monitoring system (household and community level)

The Smart-Monitoring collects farmers' responses to generate near real-time monitoring data through customizable indicators by using the 5Q approach. It incorporates feedback mechanisms to build an evidence base that improves decision making, adoption and impact through project implementation.

The approach complements traditional methods of project monitoring by increasing the frequency of stakeholder consultation to understand how project activities are impacting, providing timely information for corrective action. It uses ICT tools for massive data collection that can be done in a cost effective way. For example: local facilitators are using a smartphone application to collect simple but structured questions to farmers, or, interactive-voice-response (IVR) surveys are carried out to collect short sets of questions with farmers on their mobile phones. Both the smartphone application and IVR calls feed data into a shared database and results can be visualized in real time on a project dashboard.

To a large extent, the Smart-Monitoring was designed to address key (gender disaggregated) research questions on the household level, such as:

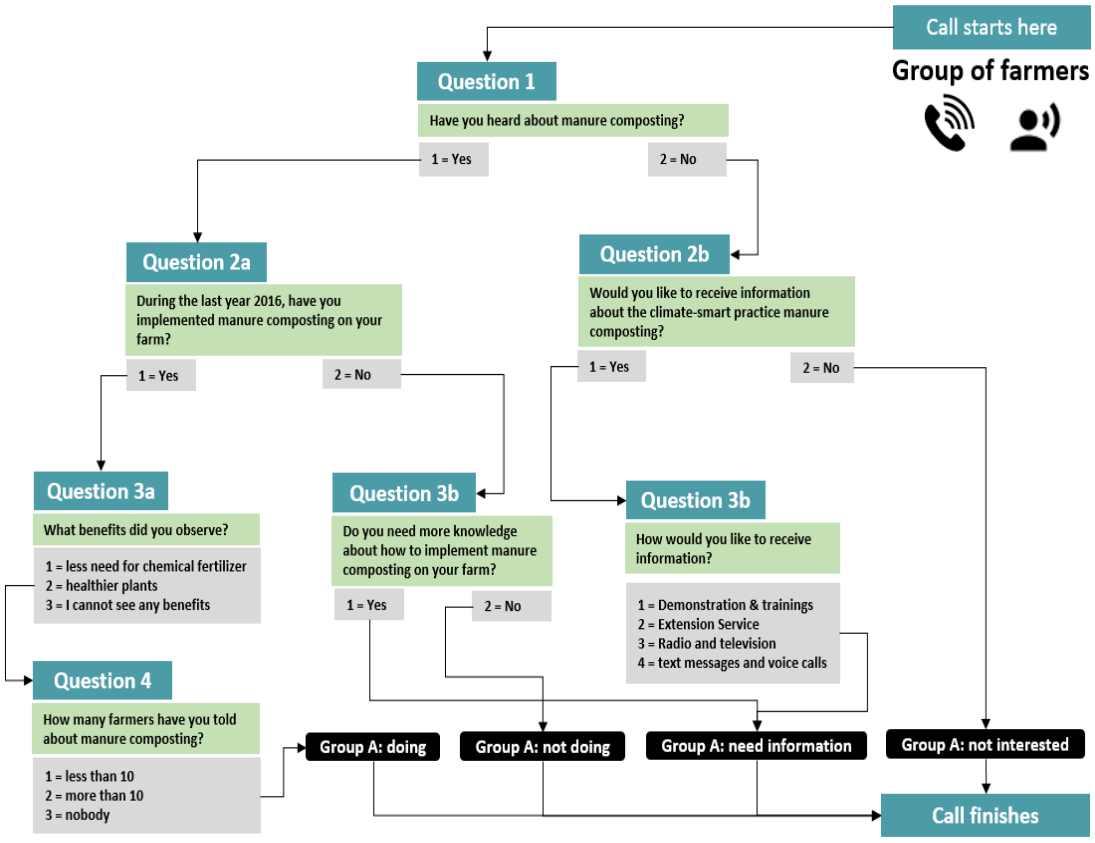
- Which are the effects of the implementation of portfolios of Climate-Smart Agricultural practices on food and livelihood security and resilience (seen as potential ability to minimize impacts or recover from climate shock) for adopting vs non adopting farmers?
- Can adoption or some CSA practices/portfolios lead to a shift of the main HH income source (from off-farm to on-farm compared to conventional practice)?
- Do CSA adopters perceive they have a better economic condition compared to before the CSA option?
- Do CSA adopters perceive a higher ability to recover from future climate-related shocks compared to before implementing the CSA option?
- Do coping strategies and risk mitigation actions (incl. changes in crop/livestock) undertaken in response to climate-related shocks to minimize future risk differ between CSA adopters and non-adopters?
- Who within the community and within the HH are the winners/losers of CSA options implementation (in terms of labor time, access and control over income/resources generated, participation in decision making)?

Smart-Monitoring designed for Climate-Smart Villages includes a Farmer Registration module at household level (incl. household characteristics as well as from at least the head of household and

a second member of opposite sex) and 5 other thematic modules addressing: Climate shocks, Climate services, Livelihood security & Financial services, Food security and Climate-smart options.

Each module includes specific questions that are framed around a set of **key household level indicators** (mainly as boolean true/false or single/multiple choice answers), complemented by a range of potential explanatory variables.

Smart-Monitoring using the 5Q approach: Example of question-tree design for Interactive Voice Response (IVR) surveys:



** A major aspect of the **indicators selected to address the Adaptation/Resilience** dimension is that they aim to cover **stability, changes over time and** (climate or not climate-related) **shocks affecting households incomes**.

These indicators were designed to track ***Initial states of assets/capacities*** (e.g on Food security, self-consumption diversification, external food dependency, main income sources; coping strategies and undertaking of risk mitigation actions), ***disturbance components/Shocks*** (e.g. frequency of climate/non-climate related affecting household incomes), ***subsequent states* of *assets/capacities*** and ***explanatory variables on contextual factors***.

The Smart-Monitoring approach allows to regularly track changes using a standard methodology based on key variables that capture short-term adaptive processes and changes in states comparing farmers that are (and are not) adopting CSA options in their farms.

Household Adaptation/resilience is addressed by looking at changes listed in the table below:

CSA Pillar	Theme	Indicator
PRODUCTIVITY	Food Security	1. Food Insecurity Access Scale Score (HFIAS) 2. Degree of un fulfillment of basic needs 3. Self-consumption "diversification" (related to changes made in crop/livestock production both climate-induced and autonomous) 4. Perceived CSA effect on variety of products consumed (related to CSA practice) 5. Share of main food source
	Livelihood Security	6. Perceived CSA effect on yield 7. Perceived CSA effect on additional income generation
ADAPTATION	Food Security Stability	1. Positive changes in HFIAS 2. Changes in HHs' degree of basic needs fulfillment 3. Changes in perceived CSA effect on access to sufficient food 4. Changes in perceived CSA effect on variety of self-consumed products 5. Changes in HH's External food dependency
	Coping Strategies (Absortive capacity)	6. Changes in HHs coping strategies (climate shock-induced) e.g sell assets; using saving/credit; reduce expenses.
	Risk Mitigation actions (Adaptive capacity) - HH undertaking climate induced or autonomous changes -	7. HH's changes in cropping/livestock activites (changing mgt practices, farm infrstructure, crops; herd size, pasture/ feed management, livestock sold, relocated, migrated) 8. Changes in HH's (climate shock-induced/automonous) crop or livestock changes: e.g substitution, diversification or stopping/abandonning. 9. Changes in HH's perceived change in ability to confront/recover from a future climate shock associated to changes made in cropping/livestock activities 10. Δ (HH's perceived) Change in ability to confront/recover from future climate shock related to CSA options 11. Changes in HH's perceived capacity to undertake radical changes: e.g grewing/breeding crops/livestock that never had before. 12. Changes in HH's perceived off-farm income generation source/dependency 13. Changes in farmers agricultural related income 14. Changes in farmers perceived effect of CSA on-farm/off-farm income share 15. Changes in farmers Saving capacities 16. Changes in farmers Investment capacities
	Knowledge and learning	17. Changes in farmers receiving value chain training , per source
	Gender equity	18. Perceived CSA effect over labor time 19. Perceived effect over access/control over CSA generated resources 20. Participation in CSA implementation (adoption/dis-adoption) decision making

HH= household

Other variables collected include:

- Perceived frequency of climate (and non-climate) related shocks affecting incomes
- Farmers awareness and interest on CSA options
- Drivers of CSA adoption/dis-adoption
- Farmers capacities to access and use CSA services
- Farmers access to agricultural credits and insurances

As well as household, farm and individual farmers characteristics.

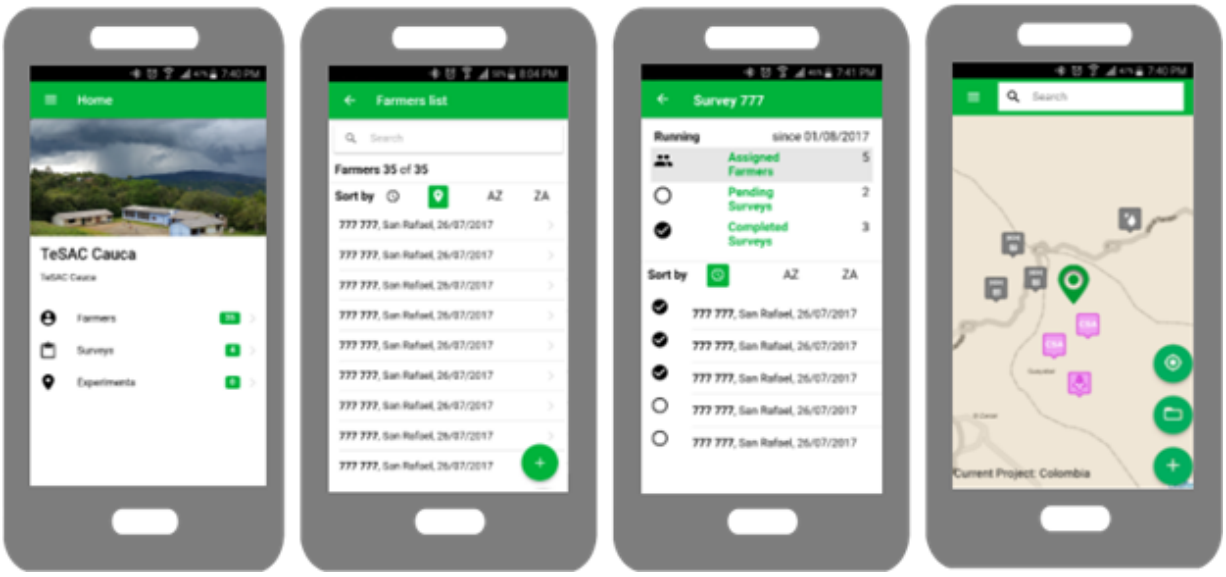
At Community level, the CSV Monitoring plan was designed to track adoption/dis-adoption trends and specifically improve the understanding of the factors (financial, technical/operational, social) that might be enabling CSA adoption and/or dis-adoption.
Key indicators at this level are listed below:

CSA adoption/ dis-adoption trends and enabling factors	
Awareness and interest	1. Farmers' CSA options awareness 2. CSA interest from "non-adopters"
Shocks	3. (Perceived) Frequency of non-climate related shocks reducing Hh incomes 4. (Perceived) Frequency of climate related shocks reducing Hh incomes
Implementation / dis-adoption frequency and motivations	5. HHs/farmers implementing CSA 6. HHs/farmers dis-adopting CSA 7. HHs drivers of CSA implementation *(climate-shock, proactive adaption to future shocks, markets, learning…)* 8. HHs motivation for CSA dis-adoption 9. Farmers access to weather information services (per type and channel) 10. Farmers capacity/incapacity to use weather information 11. Reasons fo inability to use weather information 12. Farmers CSA knowledge sources 13. Farmers receiving CSA/ CIS training
Financial enablers	14. Farmers access to credit for ag. activitities (per type, source and motivation) *(e.g to recover from/prevent climate event? Make changs in crop/livestock activities?* 15.Farmers access to insurance (per source and motivation, type of risk covered) 16. Farmers receiving loans, price bonus, delivery contracts from buyers/providers
Farmer to farmer dissemination	17. CSA farmer-to-farmer dissemination beyond the HH

- App development

The Smart-Monitoring builds on the 5Q online platform that was developed as a prototype and tested on two pilots in Tanzania and Uganda. It is based on the GeoCitizen framework (Atzmanstorfer et al, 2014) and its extension for agricultural context called Geofarmer. The application system provides several modules such as georeferenced surveys, geolocation of context relevant information and e-participation. The multilayers architecture can best be described as a system of modular components communicating with a central cloud application. The systems' backend provides application program interfaces (API) and functionalities that can be used for different user interfaces, like requesting data from the database or sending data back data for processing and storing. The application is designed to use different means of user-interaction: i) database interface, ii) web-dashboard, iii) smartphone application, and iv) IVR surveys. The smart-phone application is mainly used by facilitators during fieldwork activities. It is the main data-collection tool.

Selected screenshots of the smartphone application show the start page, the list of farmers page, a sample survey and the map viewer with observation and experimental sites:



The GeoFarmer dashboard connects the uploaded data from fieldwork by facilitators and complements them with collected data from IVR surveys. It provides real-time overview of results and indicators and enables a project manager to customize surveys and other project specific settings.

Key outcomes of the activities/processes undertaken:

Please provide information regarding the outcomes of the activities/processes described above, and do not hesitate to add qualitative assessment and/or quantitative data to substantiate the information.

- With the buy-in from the CCAFS regional leaders acting in Latin America, East and West Africa, South and South East Asia a major outcome of this work is that it will be adopted across a wide range of agro ecologies and socio-cultural contexts providing a unique source of evidence on the impacts of climate smart agricultural practices, technologies and services on Food Security and Adaptation at local level.
- After this global implementation the Smart Monitoring approach will have increased capacities of multiple local level partners (including NARS) to address and track impacts of agricultural interventions not only on Adaptation but in all the CSA dimensions and constitute a publicly available instrument tailored to 5 regional contexts worldwide.
- By enabling learning cycles and feedback loops, it will guide future implementation of CCAFS activities across the 36 CSV sites of the network, improving their design and increasing their efficiency.

Outcomes related to the 5Q approach include:

The 5Q approach innovative idea was selected 2014 as one of the winners at the Grant Challenge Explorations by the Bill and Melinda Gates Foundation. In 2014 and 2015, it was implemented as part of IFAD funded projects in Tanzania and Uganda to collect feedback from 1000 farmers on their Knowledge, Attitudes and Skill to implement climate smart agricultural practices after demonstrations.It has also been implemented in Nicaragua (Cambio2 project: Implementing sustainable Agriculture in San Juan del Rio Coco, Nicaragua) and Colombia on topics related to climate services with rice and maize farmers and as well with extension technicians to compare the differences on climate services perceptions. Further it has been used to show the spatial distribution of risk perception of 1200 farmers from the country's Agronet farmer-advisory network.
Several actors from non-profit and for-profit organizations are now showing interest in applying the simple monitoring approach within their farmers' networks.

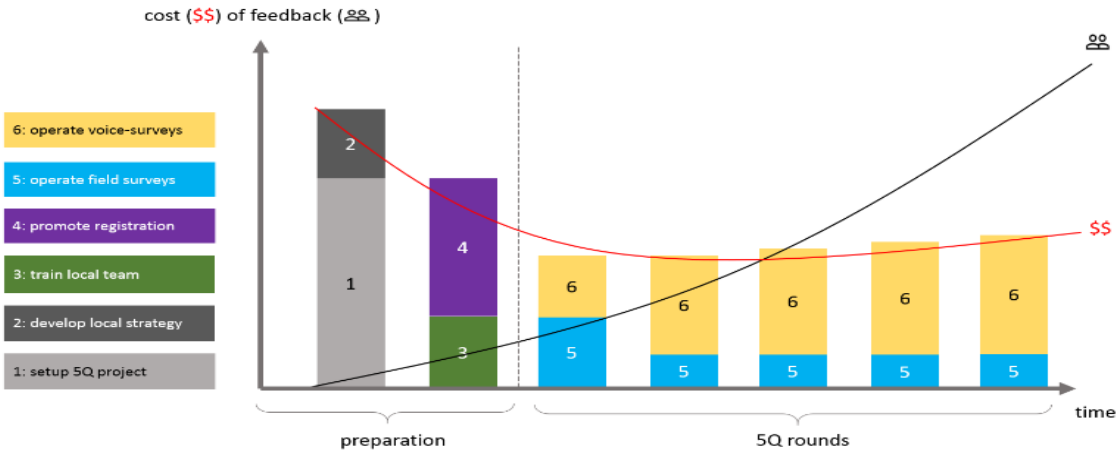
Description of lessons learned and good practices identified:

Please consider the following points when describing lessons learned and good practices: (a) effectiveness/impacts of the activities/processes (including measurability of the impacts), (b) efficiency in the use of resources, (c) replicability (e.g. in different locations, at different scales), (d) sustainability (i.e. meeting the current economic, social and environmental needs without compromising the ability to address future needs).

Many traditional monitoring and evaluation methods are expensive, rigid, timely, and often fail to include the most important voice: those of the true stakeholders, like farmers, who are often geographically and culturally distant from most donor and implementing organizations, hard to reach, and diverse. The 5Q approach is simple, adaptable, responsive, cost- effective and foster this integration. Fast, easy-to-use, it offers something that traditional MEL methods don't: project implementers receive quick feedback to make adjustments during the project cycle. Project beneficiaries can proactively participate in programs that directly impact their lives, including throughout the project design, implementation, and evaluation processes, in order to have their needs better understood and met.

The 5Q approach makes monitoring, evaluation and impact assessment of development projects significantly easier. It can also help to achieve impact. In our pilots we showed how 870 farmers can provide actionable feedback in just 15 minutes at a cost of 25 cents per farmer.

The piloting of the CSV Smart Monitoring in contracting regions is allowing context-specific tailoring (while keeping a common structure and indicators) and will translate in significant **cost reductions related to replications** over other geographies but also over time due to its planned complementarity by automated calls (interactive-voice-response IVR) in the near future:



This monitoring plan and associated tools and indicators will be implemented across 5 different regions (Latin America, East and West Africa, South Asia and South East Asia) embracing contrasting socio-economic and environmental contexts and providing the flexibility to extend and/or adjust its use to other potential users.

By providing and communicating evidence on the effectiveness of context-specific CSA options, the CSV Monitoring Plan will increase regional/local stakeholder's efficiency in their prioritization and cost-effectiveness of invested funds.

In terms of sustainability, the implementation of this multi-scale and multidimensional Monitoring in the CCAFS CSV sites will be an inspiration example for major developments agencies and donors aiming to improve Adaptation metrics at local levels.

On the technical side lessons learned during the Smart Monitoring piloting include:

- Communities by-in and involvement is crucial and can be supported through the establishment of an implementation strategy, including specifically communication activities aiming to inform farmers on the scope and usefulness of the Monitoring exercise (meetings, flyers, radio etc)
- Simplicity and clarity in the phrasing of the survey questions is essential and implies a validation and "Translation" phase (in farmer's terms) of the survey questions with a local facilitator or sub-group of farmers in order to ensure that the phrasing of the questions clearly leads to the target indicators.
- Site-specific tailoring of some questions' typologies should be made to ensure a proper reflection of crop/livestock system and socio-cultural characteristics

On the operational side:

- Assess the level of "ICT literacy" and the familiarity of local farmers with automatic survey calls to define the most appropriate survey channel to be used with the target community.
    - A recommendation for a multi-year implementation plan, is that at least in the first year data collection is made through face-to-face visits by enumerators equipped with

tablets before transitioning into semi-automatic phone Calls (assuming previous confirmation of cell phone coverage)

Description of key challenges identified:

Please describe the key challenges associated with those activities/processes or the use of those tools/methods, that policy-makers, practitioners and other relevant stakeholders should know about.

Major challenges identified were:

- The definition of generic indicators relevant for the different target sites.
- Reach a proper design and phrasing of the questions so that they are simple, short and precise and easy to understand from farmers' perspective.
- Devote enough time to build capacity of the regional teams on the use of the tools.
- The need to envisage incentives for farmers to respond to the survey, namely those not directly involved in the program. The next evolution of the 5Q monitoring system should go into moving from a unidirectional system focused on data collection to a bi-directional system that also provides back to farmer a useful synthesis of their status and some generic recommendations on opportunities for improvement.

Planned next steps (as appropriate):

Based on this experience or research, have next steps been planned to address/study some of the identified challenges, scale up or scale out such activities/processes?

To date, the complete design of the CSV Monitoring Plan has been informed by several interactions and review processes coming from both an initial piloting phase carried out in the Cauca CSV site located in Colombia, and inputs from peer expert groups. Its first full deployment is will take place in the Lawra-Jirapa CSV site (Ghana) in October 2017. Based on the feedback and results coming from this second pilot, final adjustments will be made before moving into its dissemination through capacity building exercises to CSV coordination teams in all the CCAFS regions.

Next steps also involve developing the analysis function of the database and supporting system, to rapidly characterize the status of farms and households, across all the Climate-Smart Village network.

Implemented at an annual basis this Monitoring Plan will allow to track changes over time of standard Food and Livelihood security and Adaptation indicators at Household level in 5 distinct regions of the world. Beyond its value on evidence building, this local level Monitoring plan will continuously inform the CCAFS program on new challenges and opportunities raising related to the challenge of promoting wide scale adoption of promising CSA practices and technologies aiming improve farmers livelihoods and adaptive capacity to climate variability and change.

Relevant hyperlinks:

Please provide hyperlinks to sources of information.

- 5Q video: https://goo.gl/ff3G9A
- Farmers Feedback from 5Q Tanzania Pilot: https://goo.gl/KDiv4v
- The Rural Household Multi-Indicator Survey (RHoMIS)
- Metrics for CSA: increasing programming effectiveness and outcome tracking

Further information:

Please do not hesitate to submit more detailed information on case study (ies), tool(s)/method(s) and/or other relevant knowledge resource(s) that are relevant to economic diversification. The latter will be shared through the Adaptation Knowledge Portal:

- Measuring Progress Towards the WBCSD Statement of Ambition on Climate-Smart Agriculture: Improving Businesses' Ability to Trace, Measure and Monitor CSA