Monitor climate-smart agricultural interventions with a real-time participatory tool

Summary

- Climate-smart agricultural (CSA) interventions often require “fine-tuning” i.e. feedback from multiple stakeholders e.g. farmers, extension agents, NGO workers, and policy implementers on their relevance in a given context.

- Getting essential feedback to ensure projects are on track in a timely way, especially for fast-moving CSA interventions with busy implementers, can often be a challenge.

- Smart monitoring combines ICT tools with the “5Q” approach to ask five questions of various implementers at different stages of the project. Rapid assessment results from answers to the “5Q” questions combined with ICT-driven geospatial data provide quick insights, which can be key to fine-tuning the trajectory to success.

- Such an approach not only provides a real-time monitoring tool, it is also cost effective: one 5Q survey round in a CSA project consulted nearly 1,000 farmers in just 45 minutes by automated phone calls at an operational cost of just US$300.

Outcome

A smart monitoring tool helps to measure and target intervention strategies to achieve the widest reach.

What?

Smart monitoring uses the "5Q" approach to collect feedback for near real-time monitoring data using customizable indicators. Combined with the GeoFarmer ICT tools – a system that leverages ICT for massive spatial data collection – it enables location-based feedback loops between experts and farmers that can be used to adjust interventions or target specific groups, locations, or desired outcomes.

The 5Q Approach:

The 5Q approach: keeps monitoring simple but smart, by asking stakeholders a set of five questions throughout the project cycle. The questions are framed around indicators for tracking CSA progress. 5Q incorporates feedback mechanisms to build an evidence base that improves decision making, adoption, and impact. The approach complements the traditional methods of project monitoring by increasing the frequency of stakeholder consultation to gain a better understand how project activities are impacted, providing timely information for corrective action.

GeoFarmer ICT:

An application system which enables interactive participatory community management based on transparent and structured communication among expert groups e.g. farmers, extension officers and research scientists. Using the GeoFarmer, local CSA facilitators can register farmers, run surveys on tablets or through automated phone calls, collect GPS points, and monitor activities in demonstration plots. Learning, testing, and sharing supports the scaling out of promising CSA interventions within and across landscape domains.

Why?

CSA interventions are complex and fast-moving. Packages must respond to specific needs that often occur only during implementation. Traditional monitoring is insufficient and cannot provide timely information for adaptive management. Smart, just-in-time, adaptive monitoring approaches offer ready, easy-to-use solutions that can be combined with the use of ICT tools. Such approaches improve project efficiency, create feedback loops, inform different decision-making layers, and ultimately contribute to more successful CSA interventions.

Smart monitoring provides a framework to effectively track CSA outcomes through meaningful indicators (e.g. farmers' knowledge, attitudes, and skills about CSA, changes in food and livelihood security at household level and adoption of CSA options at site level). It is still flexible and easily adjustable to specific project needs. Sets of question rounds build on previous rounds and can be targeted to the typologies of farmers and other actors (based on demographic characteristics or on their answers to previous questions).

Monitoring CSA interventions using traditional tools such as focal surveys is a costly process and can only cover a small sample of the target number of beneficiaries. Furthermore they often represent only the most vocal farmers (i.e. usually excluding marginalized groups such as women and youth) and therefore they cannot consider a large range of specific farmers' needs. Due to these constraints, project evaluations are often undertaken after projects have finished or if evaluations were not done often enough. Even when impact assessment is considered from the beginning, such activities usually do not systematically consider farmers' feedback. Smart monitoring takes care of all these issues.

How?

Smart monitoring uses a system of modular ICT components and different user interfaces so it can be used with people with limited ICT literacy. Site-level facilitators are trained to use a mobile phone application with on/offline-synchronization to register farmers within a geographic project domain. They also carry out rounds of 5Q surveys and collect GPS points for project management. Trained 5Q moderators manage the 5Q dashboard to design survey rounds, using predefined or new sets of questions and indicators, and they define the specific stakeholder groups for monitoring and feedback (Figure 1).

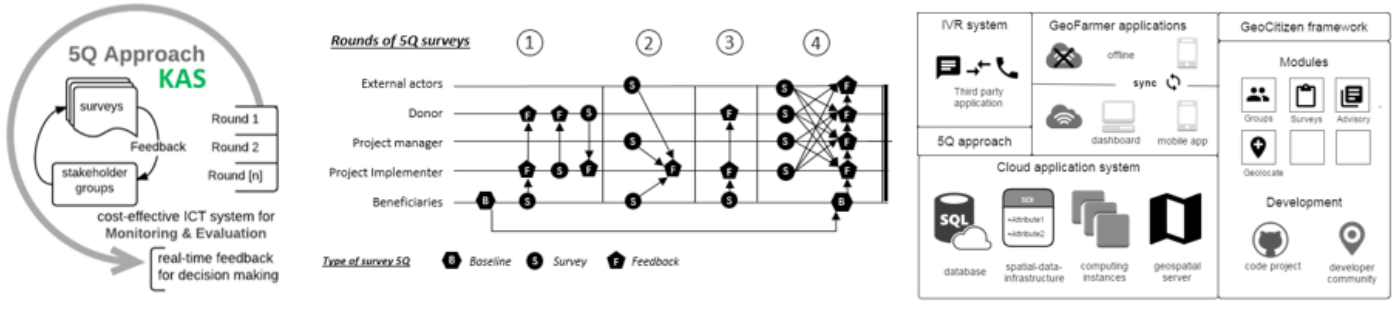

Figure 1. Smart monitoring using the 5Q approach and GeoFarmer application system architecture.

The range of available ICT components for specific tasks makes smart monitoring flexible and cost effective: for example, one 5Q survey round in a CSA project consulted nearly 1,000 farmers in just 45 minutes by automated phone calls at an operational cost of just US$300. When the phone calls had been completed, any missing information was collected using data on the smartphone application with the help of local youth extension workers.

Evidence

In the Tanzania study site in Lushoto, farmers' adoption of composting manure was measured. Two survey rounds were held within six months of the demonstration training activities. After the first demonstrations and on the first call from the project, farmers were aware of the practice of manure composting (blue), not aware (orange), interested in using the practice (light green), had knowledge on how to implement it (red) or they were already practicing it (dark green) (Figure 2)

During the second call held after the second training session, farmers' responded to follow-up questions in a survey and their behavioral change in terms of changes to their knowledge, attitudes and skills (KAS) on manure composting was analyzed. Some farmers did not respond to the first survey and became 'repeaters' in the next round (gray). From a sample of 800 farmers in the seven villages that were close to the demonstration sites and using the smart-monitoring approach, changes in adoption of manure composting were shown. This information together with more specific infographics (see supporting material) was shared with all project stakeholders to inform their decisions on the next steps in the project.

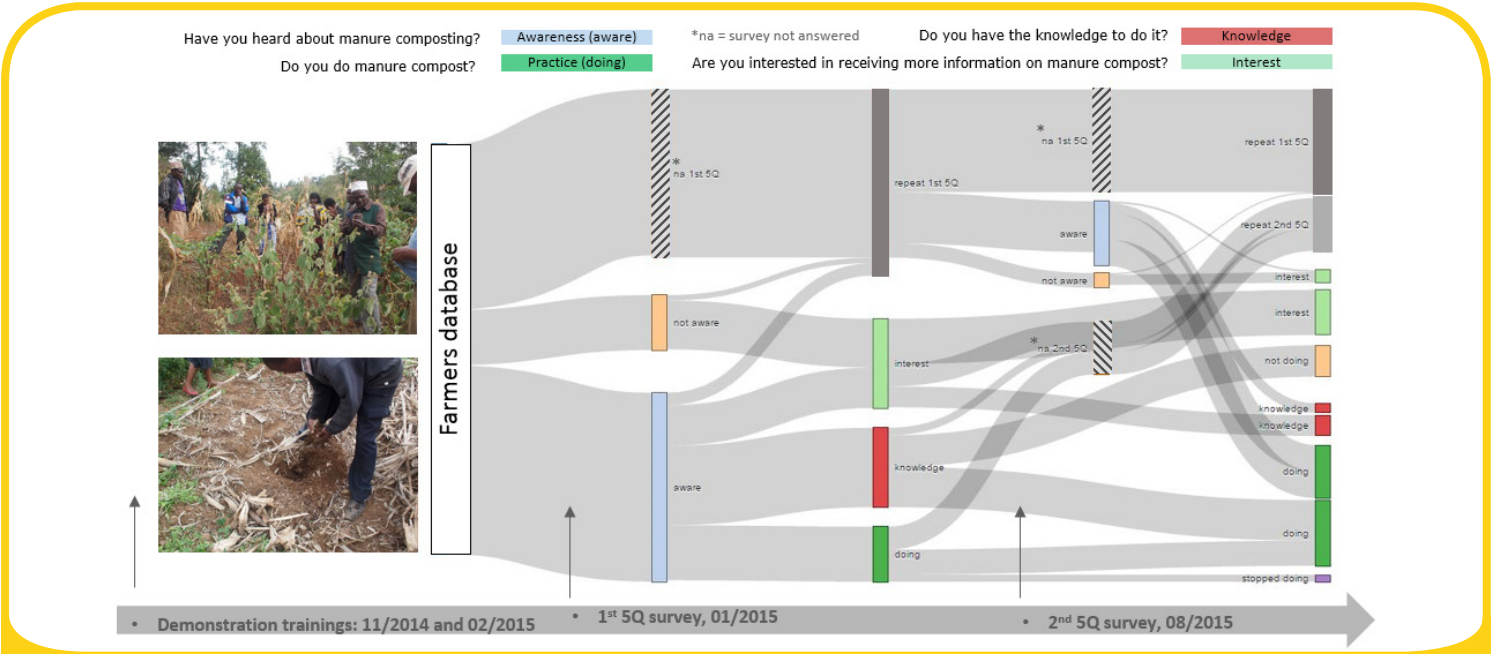

Figure 2. Measuring the pulse of CSA adoption through 5Q monitoring.

More information

- Eitzinger, A., Sayula, G., Benjamin, T., Rodriguez, B., Winowiecki, L., Läderach, P., Koech, N., Twyman, J. 2015. Project Report: Using Science Knowledge and Expert Feedback to Accelerate Local Adoption: Climate Smart Technologies and Practices meet ICT tool. International Center for Tropical Agriculture CIAT. Cali, Colombia.

- Eitzinger et al. In press. GeoFarmer: Interactive location-based feedback loops between experts and farmers.

- Jarvis A; Eitzinger A; Koningstein M; Benjamin T; Howland F; Andrieu N; Twyman J; Corner-Dolloff C. 2015. Less is more: the 5Q approach. Scientific Report. International Center for Tropical Agriculture (CIAT). Cali, Colombia. Available online at: http://hdl.handle.net/10568/70148

Supporting Materials

5Q Approach Video

https://www.youtube.com/watch?v=HIP_vLdPp4A

5Q Approach Website

http://www.5qapproach.org

CSA Lesson Brief 4

Support farmer-to-farmer and community-wide social learning

A. Eitzinger, Mwongera, C., Läderach, P., Acosta, M., Ampaire, E., Lamanna, C., Mwungu, C., Shikuku, K., Twyman, J., Winowiecki, L. 2017.

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