
# Designing knowledge management interventions in agricultural research for development

*Methodology, experiences, and lessons learned*

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## Context

The International Center for Tropical Agriculture (CIAT, its Spanish acronym) developed a methodology by which its research programs and projects can design knowledge management (KM) plans according to their impact pathways. For 2 years, the KM group applied concepts of Theory of Change to four pilot projects of the Center's Decision and Policy Analysis Research Area to identify, design, and implement appropriate KM interventions and derive lessons.

This pamphlet summarizes the lessons learned by the KM Group at CIAT when it participated in research projects on agriculture for development. It also discusses possible areas for KM intervention in such projects, together with the ways these interventions can contribute to the projects' ultimate impact. The Theory of Change (ToC) for KM, developed by CIAT, is described, as are the roles of implementers, partners, and users in a project's journey towards achieving impact. Finally, five lessons that should be considered when designing KM interventions for research-for-development projects are highlighted.

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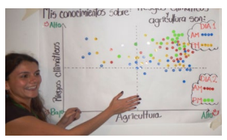
International Center for Tropical Agriculture
*Since 1967 / Science to cultivate change*

# Areas of knowledge management intervention

Knowledge management can contribute to the achievement of impact through seven areas of intervention:

### 1 Planning the research

Research is planned in a participatory way, following results-based management principles. The process is evaluated periodically. The receptiveness of unexpected opportunities are incorporated into the planning.



### 2 Use of KM tools

Staff and partners strengthen their skills in participatory research methods, leadership, facilitation, tutoring, formation and management of networks, and use of social media, among others, so that they facilitate and participate better in multi-actor platforms and transdisciplinary teams.

### 3 Management of data and information generated by research

Data and information relevant to research is made available, accessible, and applicable to a wide public. By implementing an open-access policy, scientists and partners can use, reproduce, and develop new propositions for data and information.

### 4 Sharing research in progress

Applying principles of adaptive research, partners and interest groups integrate by means of facilitated conversations that forge confidence and create learning cycles that, in their turn, create new opportunities for integration.

### 5 Use of information and communication technologies (ICTs)

Implementers of projects use ICTs to compile and share data and information. They develop strategies to include different users groups and address generational issues. The design of those projects focuses first on context, audiences, and content relevance before identifying the best solutions for fruitful knowledge exchange.


### 6 Co-creation of information and knowledge products

Products (databases, infographics, applications for mobile phones, manuals and guides) are developed in the required languages, in a collaborative way, adapted to multiple audiences, and take into account the expressed needs of users.

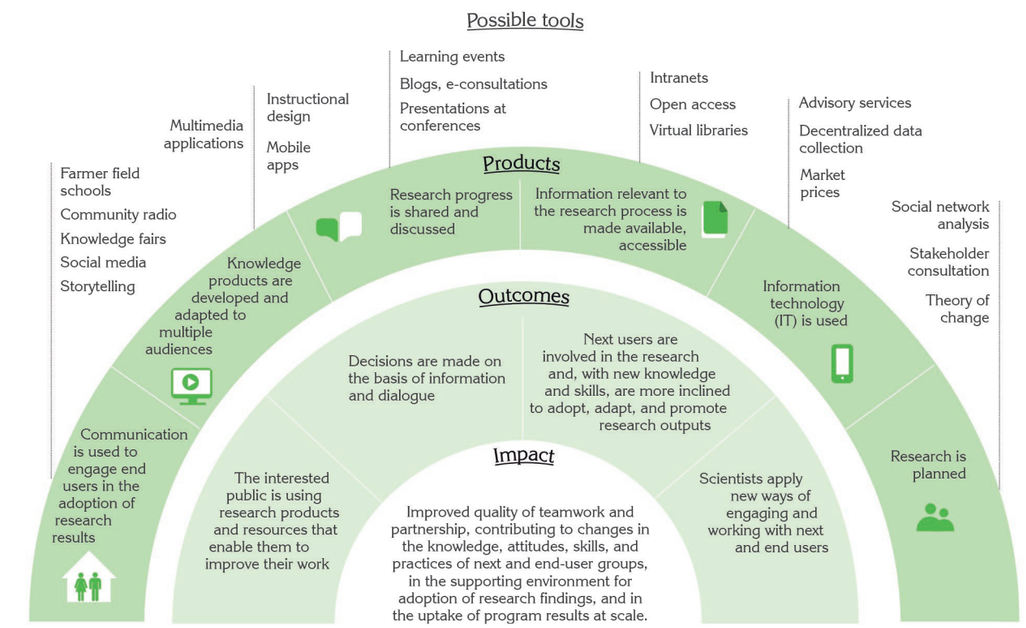
### 7 Communication for development

Communication tools and methods are used to reach out to the  end users of the research. Scientists get involved in designing these tools and take into account local knowledge and cultures, linking with relevant partners, and fully sharing lessons learned.

*Photos: José Antonio Arana: 1, 3 y 4. Diego Obando: 2. Luis Armando Muñoz: 5. Viviana García: 6. Karina Feijóo: 7.

# CIAT's KM theory of change

The areas of intervention are represented below, formulated as products and included in a ToC of KM that was developed for CIAT.




# KM in agricultural research for development

As a project or program advances according to what was planned, KM broadens its area of influence.

The figure below illustrates different KM interventions along the impact pathway: at the start of a project, participatory planning is conducted by the project implementers, adequately involving immediate partners. Thus, as a principle, the sharing of research progress is emphasized from the start.

With initial results, tools and methodologies are developed collaboratively with partners, ensuring their adaptation to multiple audiences. Networks of strategic contacts are essential for sharing these products and generating their use at scale. Media, including social media, are important for widely calling attention to the solutions that have been developed.

Finally, to achieve impact at scale, with changes in knowledge, attitudes, and required skills, it is necessary to influence decision-making processes, as these largely determine the behavior of end users.

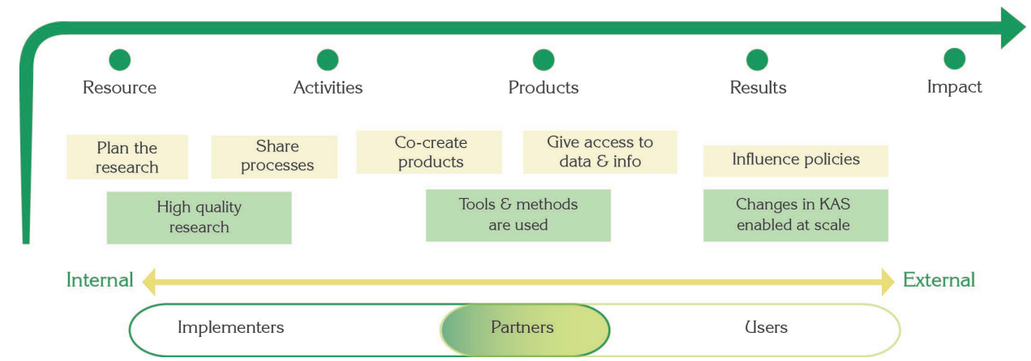



Photo Fanny Howland

# Lessons learned

The lessons learned were generated from four projects of CIAT's Decision and Policy Analysis Research Area. Elements of ToC were applied to all as a way to identify KM needs and design intervention strategies. The projects aimed to (1) generate institutional capacities, (b) identify strategies for adaptation to and mitigation of climate variability and change, and (c) contribute towards closing the yield gap.

1 **The use of Theory of Change increases the applicability of research results.**
On making a project's ToC explicit, we can better understand the questions we should have as implementers: who will we work with, what do we want to achieve, who will benefit from the results, who will use them and how, and what do we want to change or improve?

2 **KM contributes to institutional strengthening and improves relations among partners.**
In developing a project, partner organizations improve their relation harnessing partners' common interests. They strengthen their capacities as staff gets involved with KM. Based on a better understanding of each other's organizational culture, they formulate joint strategies for sharing information and engaging their researchers in the generation of contents and products.
The foregoing contributes significantly to the capacity development of individuals and organizations.

3 **Successful KM depends on the quality of integration between the knowledge manager and the scientific team, and on the commitment of the project implementers.**
A fundamental objective of KM in agricultural research is to generate a bridge between science and its users to successfully obtain applicable products. In this sense, the knowledge manager must have one foot in science and the other in user communities. That is, he or she must understand research processes as well as user's knowledge, attitudes, skills and needs.

4 **The ICTs are not an end in themselves but a means for achieving determined goals.**
Experience has shown that ICTs are key to small farmers having access to information that supports their decision-making. However, this knowledge has frequently not been exploited because of a focus on infrastructural factors, thus minimizing opportunities for interaction. In this sense, KM can (1) generate differentiated user strategies to achieve appropriate use of ICTs, (2) carry out a contextual analysis of knowledge, attitudes, skills,and practices regarding ICTs, and (3) identify available resources and a facilitating environment for users of online platforms.

5 **Knowledge management helps connect administration, coordination, and research through internal communication, which optimizes learning.**
In a research project, active participation in KM is needed from representatives of all the institutions involved. The ToC process can help clarify both the roles and needs of researchers, administrators, and project coordinators. Thus, connections between different research components and collaborative work strategies with partners can be established. The foregoing will lead to plans for training and delivery of products, and to agreed-upon proposals for communications that will strengthen the impact of those products and training.

# Conclusions

Through this process of constructing lessons learned, our team sought to strengthen the applicability of KM in future research projects. Despite differences in KM interventions in each project, we identified lessons learned that were common to them all. These should not only enable us to improve the design and implementation of KM interventions but also to generate changes of attitude in partner organizations so that they appropriate and address KM relevant topics, using KM tools and methodologies throughout the project impact pathway.

**Reference**
Staiger Rivas, Simone; Alvarez, Sophie; Arana, José Antonio; Howland, Fanny; Cunha, Flavia; Valencia, Brayan; Muñoz, Luis Armando; Feijóo, Karina. 2014. Designing knowledge management interventions in agricultural research for development: Methodology, experiences, and lessons learned. Knowledge Management for Development Journal 10(1): 36-51. http://journal.km4dev.org/journal/index.php/km4dj/article/viewFile/180/273

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