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Data sharing and use of ICTs in agriculture: Working with small farmer groups in Colombia

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Introduction- Sharing Experience for Site Specific Agriculture (AESCE)

Context of AESCE project (2010-2013):

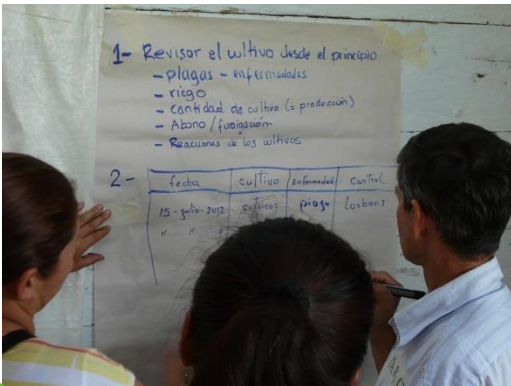
• Partner: Asohofrucol

• Desired research outcome:

- Close productivity gaps between fruit farmers with similar social and environmental conditions ...
- ... through establishing an information sharing system, with emphasis on farmers sharing experiences...
- ... which will assist growers in decision making (what, when and how to plant).

• 3 Principles:

1. Culture of measurement:
“what you don’t measure
you cannot manage”



2. Collective knowledge is
more powerful than
individual



3. Modern ICTs facilitate
information exchange
and dialogue.



Why and How the project applied ICTs?

Objectives of our research:

- What knowledge, attitudes and skills are a pre-condition for Colombian fruit farmers to participate in the use of ICTs as a means of sharing data and experiences with other farmers?
- What is the reality of their data management practices and what are the conditions for effective data management?
- What conditions are needed to enable farmers' active participation in an information system?

Process design:

- Use of Theory of Change (ToC) as a planning tool;
- Three cycles of workshops focused on a **decision-making** situation/phase:
 - (1) individual decision-making;
 - (2) collective decision-making, with the community present;
 - (3) collective decision-making via virtual communication;
- Use of FFS and participatory methodologies.



Critical assumptions

- **Farmers record data:** farmers understand the need and benefits of routinely recording details of their management practices and yield.



- **Farmers can use ICTs to share information and access information online,** using computers with access to Internet: ICTs have reached the field through different governmental programs. Communities are trained and rely on centers near their residences.

Obstacles

- Farmers do not regularly keep farm records. There is no culture of precise measurement as a management tool.



- Farmers have no means to share information other than through oral, anecdotal transmission.
- Still **poor access to ICT infrastructure** in some rural areas;
- the **shortage of skills in the use of ICTs** constitutes an obstacle to knowledge creation and sharing



Critical assumptions

- **Farmers are willing to share experiences:** on identifying the benefits of sharing information, farmers will share their farm data with other farmers, researchers other agencies that support them.



- **Farmers can improve their decision-making if they have access to site-specific information:** information generated by the study can help fruit growers improve their decision-making and, as a result, help close production gaps.

Results

- Farmers like working in groups and take advantage of synergies and complementary skills.
- Farmers, overall, were positive towards information sharing within both their own immediate circles and on a broader scale.
- Farmers rapidly grasp the advantages of regular record keeping and the advantages of sharing information, including that obtained from a wider circle than the FFS environment.



- Farmers rapidly grasp and understand technical information presented in a simplified format when accompanied by facilitators.

Lessons learnt

- In project developing new technology involving data collection and use of ICTs, **researchers need to adjust their methods and tools to the context and knowledge, attitudes, skills, and practices of their various immediate users.** Researchers also need to generate spaces for feedback with their users.
- Farmers will keep records if they have simple, attractive tools which they have helped design. Currently these tools should be filled in by hand, rather than through digital media. There is a role for education of farmers in **fostering a culture of measurement.**
- Farmers currently have poor access to internet and are not comfortable using ICTs, however, the younger generations and the women on the farms are more adept at using ICTs. To **facilitate farmers' adoption of technologies that include access to ICTs, their families, especially those with youths and children, should be included.**
- Training in **ICTs and infrastructure development in rural areas constitute key elements for farmers to share information and use it to better manage their farms.**
- In spite of the lack of computer skills, the farmers, accustomed to oral and visual communication rather than reading and writing, found **videos and tablet computers useful tools.**



Recommendations for further research

- Involve proactively women and youth in ICTs research project for development.
- Design processes to involve smallholder farmer in the use of ICTs, example Knowledge brokers.





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