



Sustainable Agriculture and Natural Resource Management Collaborative Research Support Program

SANREM CRSP
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Trip Report: Cambodia 7-21 January 2013

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Daniel Sumner, Gender CCRA Graduate Student, Virginia Tech

- Purpose of Trip:**
- (1) Perform a rapid gender assessment, prepare student fieldwork for summer of 2013, and meet with CIRAD/PADAC team for planning and briefing on history and status of CAPS/DMC work before conclusion of PADAC project prior to our return in June.
 - (2) Meet with Rector of the University of Battambang, Dr. Visalsok Touch, to introduce SANREM Gender CCRA, build relations for the SE Asia LTRA, and begin efforts to recruit a Cambodian student for collaboration and translation with Virginia Tech student, Daniel.
 - (3) Make a presentation introducing on gender in agriculture, and CAPS, to students of the University of Battambang.

Sites Visited: PADAC project house (sector house) in Sdao town, Sdao commune and Pitchangva village, Reasmey Sangha commune and Boribo village, Sdao commune in Rattanakmondol District; City of Battambang, Battambang Province

Description of Activities

Graduate student Daniel Sumner and Gender CCRA PI Maria Elisa Christie performed a preliminary rapid gender assessment with the SANREM/PADAC team in two of the four villages in Battambang Province with which SANREM is working. Good working relations were established with the team of technicians in the field and different options for lodging and transportation for Daniel's summer research were explored. We interviewed eight farmers in four households (man and woman each, separately)—four in Boribo and four in Pitchangva) – and held a Focus Group Discussion for men (FGD) and one for women with multiple activities in both villages with a total of 27 farmers (15 women, 12 men). All

farmers in the FGDs were part of the project and had adopted DMC on their farms. Extensive discussions about the project, the site context, and the upcoming gender research took place with Stephane Chabierski and Stephane Boulakia, which, together with the five days in the field and two meetings with the team discussing the results and the team's observations and reflections, have positioned the Gender CCRA research in Cambodia to focus on issues of particular relevance to the site. Several training activities took place: the local team and Daniel were trained in qualitative research and incorporating gender in a participatory approach; and approximately 250 undergraduate students and a small number of graduate students primarily from the Faculty of Sociology and Community Development (which includes the Department of Rural Development) at the University of Battambang participated in a seminar including question and answer period moderated by the University President, Dr. Visalsok Touch. Dinner and a seminar with Dr. Touch served to build relations between SANREM and the University of Battambang, raise gender awareness, and establish future collaboration with a Cambodian student to partner with Daniel; the latter opportunity was announced at our seminar and the mechanism for recruitment was established. We also presented Dr. Touch with information on InnovATE and initiated discussion for institutional capacity-building of the University of Battambang in partnership with Virginia Tech and its consortium of American universities and USAID. GPS points of each household interviewed and of key community sites such as the school were taken for use in further geographical research this summer. While a big obstacle was the language barrier, San Sona, agronomist and head of the extension network for PADAC, translated throughout the fieldwork. Spending a full day with the team to debrief and to translate and discuss all the flip chart notes for the FGD, and half a day to debrief on the interviews allowed us to obtain most of the information we hoped to collect. It should be noted that all objectives of this trip were met thanks to the support of the Cambodia SANREM CRSP team and despite the context of uncertainty at this stage of transition in the project.

Village Findings:

One of the most striking findings is that farmers in both Boribo and Pitchangva villages (men and women alike) are fully market oriented and see agriculture as an investment; unlike the farmers in Claveria in Mindanao or in the SANREM site in Bolivia who sometimes answered the question of why they farm with "because it is all I know" (i.e. they have no choice), these farmers looked at us with some surprise at the question and all answered with more or less "because of the money". Some were using the gains from their maize production as well as the extra time made available with DMC to plant and care for longan trees, which have a good export market in nearby Thailand.

During the four focus groups, the following exercises were implemented: (1) listing the practices of a "good farmer" (2) a timeline mapping changes in soil quality and its gendered impacts, and (3) changes in agricultural technology and its gendered impacts. Following these activities farmers listed characteristics of "fertile," "medium," and "degraded soils," and then proceeded to map these on a community-scale Google Earth image. Finally, after a short break, we constructed a socio-economic activity chart listing productive (paid and non-paid), reproductive (primarily so-called "domestic" chores), community volunteer work, and leisure and educational activities. Household visits included the following activities: photo elicitation where farmers were asked to describe a photo showing a sloped area that had been deforested and to answer the question "have you been affected by soil degradation or erosion, and if so, how;" and again asked to describe a photo of a no-till seeder and asked how this technology had affected their everyday lives. This was followed by a survey, consisting of questions related to the farmer's experience with and perceptions of DMC, climate change, and impact of DMC on their daily life, lasting

approximately one hour, and a participatory mapping activity where farmers were asked to map the places of primary importance in their lives on a blank sheet of paper with colored markers. In all exercises, according to the team, women were more active, clear, and accurate. It was also evident that men spend more time in the fields than women while women spend more time in the community working with a variety of NGO and CBO initiatives. Both men and women claimed to have benefited from DMC with reduced labor, though men still have more work in the field than women.

Preliminary results from these exercises in all four focus groups highlight that, “a good farmer” is one who asks questions of farmers who have good production---that is, who seek out new ideas. Women stressed that good farmers must find new technologies. Among the practices for a good farmer, the Boribo women’s group listed chemical herbicides.

The timeline exercise showed all farmers are immigrants to this region as of the late 90s after the land redistribution following the Peace Accord effectively ending the Khmer Rouge. Key transitions related to the technology such as when power-tillers and tractors became widespread (1995), when the project arrived, when the cropping systems changed, starting use of herbicides in 2006 (some continued to weed by hand), and the recent drought in 2012 were documented by all farmers. Women noted that work was harder for men from 1996-2001 when they were reclaiming forest land, and that they continued to work hard with the use of tractors, and only reduced their labor with the introduction of DMC. Women also said their labor was reduced with DMC. Significantly, the men’s focus group in Pitchangva extended their timeline into the future, and said the whole community would be doing no-till. Farmers also noted that finding a good market price was a characteristic of a good farmer.

In listing fertile soils, three of the four groups mentioned the presence of earthworms as a sign of fertile soils. They said they used to see them more (the worms and worm burrows left in the soil) when they recently reclaimed the forest and are seeing them more now in their DMC land and that the earthworms help with the structure of the soil. All noted that degraded soils have no earthworms and that soils are compact and water-logged. Upon mapping the different types of soils, it was clear that women were more accurate (according to PADAC technicians) and that it was easier for women to orient themselves and understand the maps, perhaps because of their greater mobility due to their role in community work with NGOs and CBOs. Notably and reflecting the specificity and history of the site, the Pitchangva women’s group marked two areas as mined on their maps. Men and women both used tonnage per hectare as an indicator of fertility; though men and women had different thresholds and thus women marked pockets of degraded soils where the men marked these as being of medium fertility.

In the household surveys the perception (and confirmed by the team) was that women cannot operate agricultural machinery in the field, though there was one case where the woman purchased a smaller (hand held) seeder and used it herself, until she married a man who is now providing the labor for this task on her land—both in Boribo and on her other land in a nearby village— and also renting his labor to do this on other people’s lands. (Note that it is not only women with positions within the community-based organizations who spread the word on DMC, but, in this case, even the man laborer, because he takes the machine far outside the villages and thus makes it visible to others; the man said people come to him on the road and in the fields and ask him about it.) This woman (who owns the hand held seeder) referred to another woman in a different village who plowed herself. In addition, an older and very thin, small woman drove the tractor to the fields regularly to carry water. These perceptions of what is

appropriate and possible for women may be worth exploring further as they may present an obstacle to women more directly participating in DMC if it is assumed women cannot operate machinery; we have evidence here that women can and do operate machinery, and also that they can purchase machinery and hire labor to operate it.

The activity chart confirmed that men do the plowing, apply fertilizer in the field and carry out other land preparation activities. Women in both villages claimed that they themselves controlled the money and thus had control over decision-making concerning the use of machinery and adoption of no-till; the men did not list “managing the money” among the activities in their chart. The topic will be further explored in later CCRA research in June-July. While men did most of the work, women had more knowledge about the DMC technologies and cropping systems and decided when to do different activities. Both men and women were able to describe the photo of the DMC machine; PADAC staff reports that they go to men in the field to train them and to the household to train women.

In talking about free time, it was striking that women did not consider their work with NGOs as community activities but rather “leisure” that they did in “extra time”, though one complained about the hard work for which she was paid only \$10 per month to work with several villages in a variety of activities. This is the stereotypical example of how women bear the “triple workload” of productive, reproductive, and “extra time” on community wellbeing especially via NGO activities. Women share information in more places than men and to a larger number, including the market. Men shared information when farmers came to their fields or when people approached them on the road or visited their house.

Two of the women we interviewed were participants in the original Farmer to Farmer Exchange several years ago when farmers from these two villages were taken to Kampong Chan to learn about those farmers’ experience and see PADAC demonstration plots. These women played a key role in organizing CAPS activities in their villages upon return.

Additional observations:

The project in the two villages is in its 4th year in each (as of 2013) of implementing CAPS with increasing farmer participation. Indeed, farmer collaborators in the Pitchangva FGD said that the entire village was moving to no-till this coming season, though this is far from certain. All farmers reported observing decreasing soil fertility and this being a factor in their interest in DMC. Farmers may not be fully aware that this is the first year that the project will not offer credit, though the team informed the farmers one year ago that the project will not offer credit anymore beginning in 2013, but they still ask for pre-financing of, at least, the services.

The two villages were initially selected by PADAC based primarily on three factors: 1) their upland production system; 2) they were in transition, with farmers going from two crops per year to one (the traditional cropping system was no longer working for them); and 3) the presence of established community based organizations and NGO operations provided entry points for PADAC to work with farmers. (See Appendix 1 for the methodology used by the Cambodian team in selecting the sites.)

PADAC will be doing a qualitative analysis at farm scale within the reference farm network in Ratanakumundul in February 2013. This will provide interesting information to build on.

We learned that Dr. Som Lon is a GIS expert. He is in the Ministry of Agriculture and director of PADAC. Like the rest of the project, his tenure ends in four months. He is completing his mapping of all the GPS points of farmer's fields and will be able to share this information within the coming months.

While the military past and the hierarchical structure it left behind is key to the organization of this project, due to its building on existing social networks and leadership, people are reluctant to talk about it and when they do, they are likely to lie. Thus, this was dropped from the questionnaire. It is still, however, important to gather some information on this through other means due to its relevance to women's status and their role disseminating information about CAPS/DMC.

We had a good discussion with Stephane C. about their policy of reimbursement for farmers' time. Farmers are not paid. They participate in the project because it is of interest to them. They start with credit in the first three years but pay the project back at harvest time each year, though there is a safety net clause that is implemented based on amount of tonnage produced and market price. (See Appendix 2 for more information.)

Changes in labor allocation due to mechanization and DMC where women no longer participate in sowing provide women more time for other activities; they reported some reproductive activities such as cooking and laundry, and some productive activities such as gleaning corn left after the harvest and selling or growing chilies in the house-lot garden for home consumption and sale, and in one case, working with the longan trees (which one woman and her husband had planted). Men also spent less time in the field with DMC and spent more time in other productive activities, such as the longan trees and raising chickens (though the latter is on a small scale due to the high risk of disease). Men also hired themselves out as labor with the extra time.

The following preliminary observations may also be of relevance to CAPS in this site:

- Women control the money and do the marketing for the farm.
- "Extra" time (saved with use of DMC) does not equal "free" or leisure time.
- DMC can increase gender equity – sharing of domestic activities. More time can lead to more equity, as one man reported he helps his wife in household chores now.
- Women are more active in community organizations.
- Women mapped additional features other than the fields and the house.
- Men know the land they work, even while their knowledge of the community lands appeared to be less than women's.
- Family networks can potentially facilitate the dissemination of DMC. We found that one of the participants had two sons who had also adopted DMC.
- Road conditions (dirt road, big holes) are very bad between the SANREM/PADAC house and Pitchangva.
- Climate variability was a concern to all farmers, with the problems they face including too much rain and waterlogged soils, and too little rain, as in the drought this past year.
- The proximity of this site to Thailand affects the availability of labor given the migration to higher-paying labor markets, (but also provides opportunities for export). The labor issues make DMC more attractive.

Land mines are an issue in this region and affect farmers' access to land, though some overcome the constraint this poses by hiring private de-mining companies when clearing new land. This came up in the women's focus group activity marking the types of soil on the Google Earth satellite image; they were not

sure which of the three categories to use given that “we never work in the forest, there are mines.” A key informant for further detail on this is the Director General at the Battambang Hospital, as he could give the number of victims from mine accidents (approximately one per week). A few weeks ago, a recent mine explosion outside a nearby village killed seven people who hit one of the large mines intended for tanks. De-mining companies guarantee their work with a commitment to pay for the cost of the tractor if it blows up (!), which can be around \$20,000 and thus much more than the \$10,000 a person must pay to the injured party’s descendants in total for killing someone in an accident on the road (car and all). It was recommended we stay on roads and main paths on cultivated fields and out of the forest.

It is important to note the excellent collaboration and synchronicity during and prior to this visit. Having time at the beginning of the trip to meet with the team and go over our proposed research allowed us to adapt field activities and the PPT slides for future presentations. We were able to build on their GPS points for farmer’s fields and greatly reduce the time we had planned for this activity in the summer. We used the perimeter for the village fields developed by Bertrand Ricard, French Master’s student who did his studies in coordination with PADAC, in the satellite (Google Earth) images we brought on which farmers mapped their community level soils. We used key dates from timeline the team already developed in prior research, cutting down on time for this activity and helping orient the farmers; this was not a constraint to farmer input however as they added events both before and after the set dates. We used PADAC’s wording of the three categories of land (fertile, somewhat fertile, and degraded) which farmers are used to for our description of soils and mapping exercises.

Suggestions, Recommendations, and Follow-up Items:

In the short-term, purchase a second no –till seeding machine to increase technical capacity and meet farmer demand.

In addition, host country partners recommend maintaining a revolving fund of approximately \$20,000 for services which PADAC currently provides and which are repaid by farmers after harvest. This would help the SANREM team to sustain adoption in 2013; it is not clear which institution would manage such a fund after PADAC leaves the project, but this should be established through the new host country institution that will serve as the SANREM partner.

In the mid-term, increase investment significantly to encourage greater adoption and develop enough demand for DMC equipment that will help the market develop such that vendors are supplying equipment locally. This requires further investment on a much larger scale and is promising to the future of CAPS in this region.

There is a paradox whereby the success of the project increases tensions that may lead to farmers becoming frustrated and eventually dropping out of DMC. Timing of sowing is critical to farmers (for bio-physical and cultural reasons) and has been disturbed by climate variability, including the drought this past season; a constraint of participating in CAPS is that the PADAC direct-seeding machine schedules farmers in an orderly way but all the farmers want to be first when the rains come. Stephane Boulakia calls this—farmers not being able to choose the time to sow—a “brutal change”. Timing of use of the machine is the source of conflict in the case of the four farmers in a different village that SANREM is working with where they purchased a machine collectively; they all want to use it when the rains come and have resorted to scheduling blocks of time in the day for each farmer, resulting in an inefficient process with time loss and increased wear and tear on the machine.

Given the importance of “a good farmer” listening to and observing good production, the continuation of SANREM demonstration plots is absolutely critical for the short, medium, and long-term. Like all innovation processes, adoption of new technology requires flexibility in the research proposal as it progressively integrates farmers’ feed-back retrieved through a more and more significant pilot extension network. The first observable trend consists in replacing the proposed DMC—which includes cover crops—by a no-till planting in crops residues (with farmers still sometimes using pesticides). It confirms the necessity of maintaining the demonstration plots as “beacon plots” where contrasted cropping options will be compared on a multi-annual basis with the “distorted” cropping systems adopted by farmers.

Given women are important agents within community social networks and carry information about DMC to others including villages, they are important to the dissemination and should be recognized and supported in this.

It is very important to share information and coordinate the gender work undertaken in these sites, given that Elena Javier Chong, Manny’s graduate student, Michael Williams, and Daniel Sumner, the Gender CCRA graduate student, are all conducting gender research here. Overlaps in timing, informants, and questions asked/exercises used may be confusing or frustrating to farmers, who (jokingly?) complained of having several surveys a month. In addition, farmers will be very busy this coming planting season (June, July, August—depending on the rains), thus methodology will need to be adapted accordingly. For instance, surveys must be kept as short as possible, and appointments with farmers must be made in advance and with flexibility and consideration of their priorities and constraints.

Further recommendations include targeting gender research to address the following:

- What does “extra time” mean, how is this linked to adoption of DMC and other productive and reproductive activities (including women’s “triple workload”, and how is it used differently by men and women. Look at labor allocation changes throughout the changes in the agricultural systems.
- Follow the path of the adoption of the no-till seeder, including different years of adoption and non-adoption throughout the years of the project in the two villages targeted. Explore the role women have in decision-making throughout.
- Explore women’s and men’s differing roles and spaces in disseminating information about DMC.
- See adoption of DMC in fields in nearby village in neighboring district where woman who owns her no-till seeder also uses it and also has farmers observing.

N.B.

On the lighter side, “earthworm” is extremely hard to pronounce and understand across languages (Khmer, French, and English) where the “r” is notoriously difficult in all. Also, “household”, when spoken with a French accent, which effectively erases the first “h” and the final “d”, makes it very interesting to discuss the agenda for the week.

Detailed itinerary:

Date	Location	Program
Tuesday 8th January		
Arrival (10.30 pm)	Siem Reap	Transfer to Neak Pean Hotel
Wednesday 9th January	Siem Reap	Open day
Thursday 10th January		
Morning	Siem Reap	Transfer to Battambang - Departure at 7 am (Neak Pean Hotel)
10 am-noon	Battambang	Check-in "Lux guest house" - Lunch
Afternoon	Ratanakmundul-PADAC/SANREM house	Training of PADAC/SANREM team
Friday 11th January	Ratanakmundul - Boribo village	Focus group discussions (women in a.m., men in p.m.)
Saturday 12th January	Ratanakmundul - Pitchangva village	Focus group discussions (women in a.m., men in p.m.)
Sunday 13th January	Battambang	Open day; write up notes
Monday 14th January	Battambang - Senghout Hotel (meeting room)	Debriefing with the PADAC/SANREM team including Stéphane Chabierski
Tuesday 15th January		
Morning	Ratanakmundul - Boribo village	Household interview
Afternoon	Ratanakmundul - Pitchangva village	Household interview
Evening	Battambang University's Restaurant	Dinner with University Rector, Dr. Visalsok Touch
Wednesday 16th January		
Morning	University of Battambang	Presentation at UBB with Dr. Visalsok Touch
Afternoon	Ratanakmundul - Boribo village	Household interview
Thursday 17th January		
Morning	Ratanakmundul - Pitchangva village	Household interview
Afternoon	Ratanakmundul - PADAC/SANREM house	Debriefing with the team including Stéphane Boulakia
Friday 18th January		
Morning	Lux Guesthouse, Battambang	Synthesis and wrap-up discussion of the mission with Stéphane Boulakia
Afternoon	Siem Reap	Transfer to Siem Reap - Departure from Battambang at 2pm
Night	Siem Reap	Ta Prohm Hotel; writing reports

Saturday 19th January	Siem reap/Airport	Writing reports; Daniel Departs
Sunday 20th January	Siem Reap	MEC finish writing report; submit to team
Monday 21 January	MEC departs for Manila (see separate trip report)	Airport, en route to Manila

Training Activities Conducted:

Program type (workshop, seminar, field day, short course, etc.)	Date	Audience	Number of Participants		Training Provider (US university, host country institution, etc.)	Training Objective
			Men	Women		
Participatory Gender Workshop; Cambodia	1/10/13	PADAC Technicians	6	1	SANREM Gender CCRA PI, Maria Elisa Christie	Train team in qualitative research methods to be used in Focus Group and household interview activities throughout trip
Seminar; Cambodia	1/16/13	University of Battambang	100	150	Maria Elisa and Daniel Sumner (SANREM Gender CCRA)	Gender Awareness Introduction to Conservation Agriculture
Field training; Cambodia	1/10- 18/13	Virginia Tech graduate student	1		SANREM Gender CCRA PI, Maria Elisa Christie	Training in qualitative research methods and gender analysis

List of Contacts Made (including logistical):

Name	Title/Organization	Contact Info (address, phone, email)
Dr. Stephane Boulakia	Tropical agronomist, (PDAC)/ (CIRAD), Cambodia - Country Coordinator	stephane.boulakia@cirad.fr 855(0) 12 305 961
Stephane Chabierski	Agronomist, PADAC/CIRAD	stephane.chabierski@cirad.fr stephane.chabierski@gmail.com 855(0) 12 657 874
Dr. Touch Visalsok	President, University of Battambang	visalsoktouch@yahoo www.ubb.edu.kh 012 735 416
San Sona	Agronomist, Head of extension network, PADAC	
Vath Von	Monitor* for Boribo PADAC/SANREM	
Soueng Kem	Monitor* for Pitchangva PADAC/SANREM	
San Long	PADAC/SANREM	
Nin Bunnoom	Monitor* for Pitchangva and Boribo PADAC/SANREM	
Nhor Chea	English speaking Driver Tuk Tuk & Car	(855) 12 666 545 nhorchea@yahoo.com
Chang Chhanta	Taxi to Battambang	092 96 60 55 097 54 40 505

Lux Guest House (Battambang)		(855) 92 33 57 67 reservation@luxguesthouse.com
Ta Prohm Hotel (Siem Reap)		855 63 380 117 info@taprohmhotel.com
Seng Hout Hotel (Battambang)		855 53 952 900 chhounseng@gmail.com
Mr. Lizy	Tuk-tuk driver in Battambang	092 845135 (+855)92 845135 012 67 88 45 lizyoular@yahoo.com

*The “monitors” above work with each SANREM site to support farmers with technical assistance and to collect data such as production and area under production with CA.

Appendix 1: general methodology implemented for site selection in Battambang

a) Generality

Our global strategy is based on three main principles:

- **The choice of the priorities zones**, usually, the regions subjected to high pressure on their natural resources and strongly connected to market are more favorable to DMC extension
- A good **Initial characterization of the agro-socio-economic environment**
- **A reasoned sampling of the contexts and of the different farm types apprehended**, in order to demonstrate that DMC technical offer can be iterative and thus adapted to these different situations...

The Results we intend to obtain are presented as follow:

- assessment of the economic impact of the project at different scales: plot, farm and territory;
- identification of the conditions required for an easy adoption;
- based on all these elements, we propose solutions for up-scaled development (at region and national scale).

b) Pilot regions

The diffusion component of the project operates in three pilot regions: two in Kampong Cham province (Chamcar Loeu and Dambae/Ponhea Krek districts) and one in Battambang province (Ratanakmundul district).

According to our methodologies, these three pilot regions had been sampled because (1) their farming systems mainly rely on upland cultivation, (2) they are strongly connected to markets and (3) soil degradation threatens the economic viability of their households.

The selected pilot villages are located on the main morpho-pedologic zones observed in the both regions, with different characteristics in terms of soil productivity. They present also some contrast in their socio-economic contexts, in order to demonstrate at a life-size scale that different solutions can be proposed depending on the situations, and thus highlight the adaptability of the DMC systems.

In Ratanakmundul, the preexistence of a Community Based Organization which included almost 500 members, had been considered to select the pilot villages.

Appendix 2: Credit conditions for farmers

Project management has decided to provide subsidies to farmers by alleviating part of the charge (services and input) pre-financed by the project and to be reimbursed after harvest (internal -free- credit line with PADAC project's funds); the following grid has been applied: all the farmers who produced more than 4.5 T/ha have to refund all of the credit; the farmers who produced less, received subsidies from the project, according to their yield: the amount of 35 USD/ha is deduced every 250 Kg/ha (see the table below). This subsidy concerns only the inputs and not the services.

Yield (/ha)	Amount to be reimbursed (/ha)
Yield > 4,5 T /ha	Integrity
4,25 T/ha < Yield <4,5 T/ha	Total - 35 USD
4 T/ha < Yield < 4,25 T/ha	Total - 70 USD
3,75 T/ha < Yield < 4 T/ha	Total -105 USD
3,5 T/ha < Yield < 3,75 T/ha	Total -140 USD
Yield < 3.5 T/ha	Total - 175 USD

Moreover, this security clause is not considered for the farmers who work with the project for more than 2 years and the project don't provide credits for more than 3 ha / farm.

These indirect subsidies could be considered as a way to indirectly provide incentives for a pronounced technical change and to finance (invest) the soil capital restoration. Similar system (e.g. public security fund allocated to the Micro-Finance Institution providing credit line to farmers and/or farmers organizations) should be implemented in project aiming at a large extension, especially when targeted on small-medium farmers.