

Stock taking of CTAS scheme of lead farmer's experiences for the dissemination of innovative good practices

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Abstract:

Dissemination of agro-ecological techniques in southern semi-arid area of Madagascar has been developed since 2011 through "farmers to farmers" approach. Designed by Gret technical team, supported by GSDM, it is currently implemented by the CTAS (South Technical Agro-ecological Center), a Malagasy development NGO and also by other similar organizations willing to implement this approach within their agricultural development projects. This was the results of previous support of Farmers fields School implemented by GRET technicians during early projects. The scheme is a network of 40 lead farmers practicing a whole set of innovative techniques through sensitization, distribution of seed vouchers, exchange visits and sharing of experiences by means of meetings/workshops. The actions are backstopped by a limited number of CTAS technical staff. The works of the lead farmers have definitely changed agricultural practices in their communes; they have also disseminated their own selected varieties adapted to local climatic and soils constraints. One of their most spectacular achievements is the introduction of *Cajanus cajan var indica* (pigeon pea) under different cropping systems although it has been a plant surrounded by taboos ten years ago. Local selected sweet varieties of lima bean (known as *konoke*) are now more and more adopted. In addition to their involvement in agricultural best practices dissemination, most of those farmers are working in diversified activities such as seeds production, input distribution or pest management services. They act as a structuring tool for agricultural production environment, and with time, as advocacy strength to impact farming policy change, enforcing their shared experiences and expectations in terms of agricultural sector support or institutional framework implementation (for instance in terms of seed regulation).

Introduction

Farmers are used to communicate to each other and to share knowledge and seeds in order to improve their agricultural practices and their performances.

Agronomic research was also used to adopt top down practices, trying to transfer knowledge through technicians, after trial experiment in station. This model has however limited success for different reasons.

From a scaling up logic, it isn't possible to multiply indefinitely the number of technicians working with farmers, because of management problems and cost effectiveness. From an efficiency point of view, it is also known that farmers don't easily trust technicians, considered as not aware enough of the real constraints of their condition.

On the other side, communication between farmers are considered as more relevant and reliable, especially if the talker has a reputation to be experimented and is well known among

his community. Farmers experience and point of view has also to be carefully taken into account since local knowledge can be rich and source of innovation.

GRET has conducted adaptative research and diffusion of agroecology in the semi-arid zone of Androy for more than 10 years through projects financed by the European Community, with a backstopping by GSDM. Stock taking of all these experiences has resulted in the creation of one NGO called CTAS whose objective goal is the production of seeds for food crops and cover crops to support up scaling of climate smart agriculture in this vulnerable area of Madagascar.

Among success story of GRET activities in this area was the use of legume trees like *Cajanus cajan* and cover crops like mucuna and konoke to combat wind erosion but also to increase soil fertility in a relatively short period (3 years). Apart from this agronomic interest, *Cajanaus cajan* for instance is now used as a complementary quality food for local people improving their livelihood and food security. Research is underway for the use of other legumes as feed either in family farming or as industrial feed input.

After six years of experiments and development projects in the south semi-arid part of Madagascar, Gret (international NGO) and CTAS (Local NGO) have shifted their strategy toward a farmer to farmer approach. Technicians challenge became to help farmers in order to be able to better communicate with other farmers in their near area or from remote places.

Identification of lead farmers

Lead farmers were recruited among the farmers previously working with Gret during the past years on agro-ecological techniques, mainly based on *Cajanus cajan var indica* windbreaks or semi-perennial, *konoke*, local varieties of lima beans (*Phaseolus lunatus*).

Among 70 volunteers farmers, 40 were selected according the following criteria :i) the numbers of years they had practiced agro-ecological principles, ii) their writing capabilities, iii) their motivation in working to help other farmers, iv) their communication skills, v) their social status inside their community, vi) their lack of political involvement (to avoid politicization of the messages), vii) the time they could dedicate to this activity.

All these criteria had to be checked by technician before lead farmers recruitment. Lead farmers should then attend training sessions at CTAS, learn how to organize rural training, how to give explanations and share experiences with an audience (Andragogy).

Common activities of basic lead farmers

Each lead farmer can then choose 5 villages with whom he will work. He has to organize training sessions two times per season in each of these villages, for 5 to 30 people at each session. He is equipped with bicycle for his transport, large posters with pictures and explanations related to specific plants for animation (pigeon pea, pearl millet, konoke, mucuna....) , and free vouchers for seeds.

Each session has two components: After having presented his poster and discussed with the audience, he distributes one free voucher to each participant. This voucher can be used in a local seed shop to get around one kilogram of seeds used specifically in agro-ecology or to promote new varieties (specific vouchers).

Lead farmers welcome also farmers on their own field to better convince them of the validity of agro-ecological practices. The invited farmers receive free vouchers, the same way as for sessions in villages.

This kind of training can be applied within 5 km around his house.

On regular basis (at least 2 times per year), all the lead farmers are invited to attend farmers workshops organized by CTAS. They last one day and allow exchange and debates on

practices efficiencies, individual experiments, new local varieties recommended by farmers originated from different places. Farmers innovations are also shared among the group as a rural think-tank.

Evaluations, retributions

Once a year, lead farmers are evaluated and ranked in 3 categories: beginners (level I), confirmed (level II) and expert (level III). A first set of criteria are linked to their competences: teaching capabilities, qualities of their fields, compliance with schedule of training sessions. A second set of criteria are linked to impact and efficacy: number of followers, number of fields of followers, number of training organized. All this criteria are checked by technicians (attendance lists of participants, checking of the fields and followers declared by the lead farmers...).

Lead farmers receive approximately one dollar in cash and one dollar in free voucher for each training delivered within 5 km around their house. The free voucher can be used in every local seeds shop of the CTAS to buy any seeds varieties (whereas participant receive free vouchers for specific seeds).

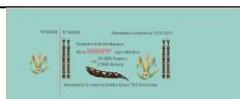
Generic free vouchers (all kind of seeds)	Specific free vouchers (variety specific)
	
	

Figure 1: examples of free vouchers distributed to trainees (specific) or used as retribution for lead farmers (generic)

Optional activities for experimented lead farmers

Farmers of level II are empowered to work further than 5 km from their house. They can use their bicycle to go in villages or can be provided transports from CTAS or Gret. Technicians select farmers from distant villages to bring them by 4*4 vehicle onto the fields of lead farmers. In this case, lead farmers retribution are higher: they can get up to 4 dollars in cash and 2.5 dollars in free vouchers.

Certification

Delivery of certificates, as local recognitions, will be soon discussed with local authorities. This should allow lead farmers to be possibly employed by diverse NGO and local partners as service providers, a kind of "rural agro ecology consultant". They could help in training farmers originated from other regions, and brought in the frame of exchanges visits.

Results

The lead farmers network promote agro-ecological techniques all over a littoral band of 30*90 km in the southern part of the semi-arid part of south Madagascar. Adoption of the techniques is still limited, but some indicators suggest that it should increase in the coming years (Figure 2). For instance, pigeon pea, which was traditionally forbidden (taboo) is already a dominant crop in some communes, with corridor set up, as promoted by lead farmers. Some farmers complain already that people steal seeds in their field, which reveal the strong interest of this crop. There is also an increasing demand on lima bean seeds varieties promoted by lead farmers.

Lead farmers diversify the services they provide and increase their income. Most of them are seeds producers or members of an association of seeds production. A few have a contract of seeds sellers and own a little seed shop.

They improve their knowledge collectively stimulated by the local workshop organized by the CTAS. Two local varieties of maize, two local varieties of sorghum and many local varieties of legumes were selected by them to be characterized by FOFIFA and later accepted in seed production process by ANCOS (Official National Seed Control Agency). They submitted also different crop associations to be tested in the framework of seeds production. In 2014, one type of crop association has been temporary accepted by ANCOS to be used for each variety in seed production (official experiment will be conducted by FOFIFA to determine if those associations are suitable or not for seeds production, in Quality Declared Seed system proposed by FAO). Their expectation is that this way will lead to an official seeds production frame compliant with agro-ecology, and cultural association.

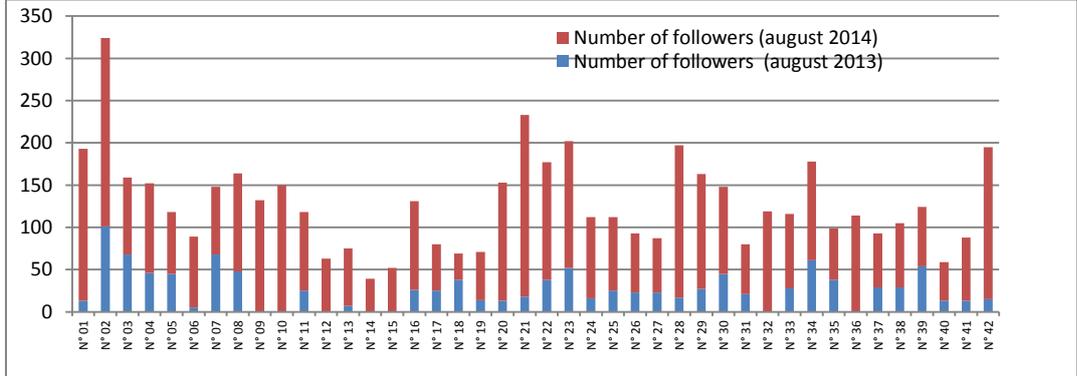


Figure 2 : followers number by lead farmer in 2013 and 2014.

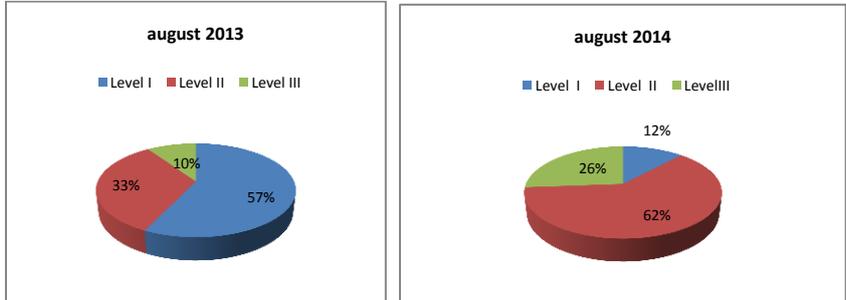


Figure 3: percentage of lead farmers of level I, II and III in 2013 and 2014.

Conclusion

Lead farmers network set up by Gret and CTAS with GSDM support are based on a bidirectional flow between farmers and institutions, with a facilitator role played by technicians. Knowledge and innovation can emerge from both parts, especially to identify the best local varieties and the agro-ecological practices that best suit local conditions. Efficiency and work are rewarded by indemnities and recognition linked to evaluations and results. This kind of professionalization show effectiveness and seems to help agroecology to be better taken into account by authorities, especially on seeds production policy.