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Participatory farmer selection for green manure

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• Introduction

Community Mobilisation Against Desertification (C-MAD) is a non-governmental organisation which formed to support small scale farmers improve natural resource management and reduce rural poverty. The organisation works in lower potential South Nyanza, Kenya. This is a 2500 km. sq. stretch of land, characterised by low and unreliable rainfall. Soil infertility limits land productivity in this area, producing low crop yields. Thus, C-MAD has promoted the use of various natural methods of soil management including composting to increase soil fertility.

Beginning in 1994, C-MAD and the Kenya Agricultural Research Institute (KARI), Kisii Research Centre initiated a programme to promote the use of green manure legumes. These improve soil fertility and reduce *striga* weed infestation, a major contributor to low crop yields in most of South Nyanza.

The project was started on a pilot basis with five farmers in Kamingusa Village, Nyanza Province. Based on the favourable results from the initial trials, C-MAD and KARI decided to extend the use of green manure legumes in other areas within different agroecological zones of South Nyanza District.

• The approach

To begin the project, PRA was carried out to understand the magnitude of the problem and to identify trial farmers in eight villages in four different agroecological zones. This paper discusses the participatory approach and recommends the institutional set up required for

participatory projects to be implemented in a sustained manner.

Village selection

Projects clearly state their intentions to work with resource poor people. However, in practice they often work with farmers who are closer to the research station, farmers who are easily accessed by road, and those who have done well in agriculture. Little attention is paid to those in remote areas who cultivate under difficult physical and environmental conditions. In this project, villages were selected on the basis that either KARI or C-MAD had on-going activities with farmers in them. Thus, we accept a project bias towards accessible rather than resource poor villages.

Since PRA was conducted in villages where C-MAD and KARI already had activities, the field staff from the two organisations were used to mobilise the community. This was a good idea because the farmers with whom these organisations work are themselves respected community leaders. Few cases were noted where farmers' preferentially involved close relatives, thinking that there would be immediate material gain for people who participated in PRA.

Community mobilisation cannot be under-emphasised. Those who respond immediately to outsider initiated activities in the village are often the elite, including teachers, respectable farmers, and opinion leaders. Their expectations are for immediate and direct gains from their association with outsiders. We found that the people we are targeting, the poorest and lowly placed, rarely attend fora where the issue of poverty and how to mitigate it is discussed.

We are increasingly asking ourselves whether our programmes intended to reduce poverty are counterproductive, making the poor poorer. We are also asking ourselves how we achieve poverty alleviation objectives without the full participation of the poor themselves.

Timing

PRA was conducted between January and February, a time we thought to be appropriate considering that it was the beginning of the planting season. However we realised that we had allocated too little time to undertake for one team to visit all eight villages. We also learned that the ideal time for undertaking PRA would have been in December, just before the planting season began.

Methodology

The team spent two days in each village during which planning and implementation strategies were discussed. The sessions generally began by introducing the PRA team to the villagers. The purpose of the visit was described as a learning exercise, for both the outsiders and villagers alike.

The villagers were asked to draw maps of their village indicating the village boundaries, homesteads, hills, streams and any other feature of significance to them. Maps indicating soil types were then developed from the social maps. The farmers were asked to list the different crops grown in the various soil types. Information on cropping patterns and other time related events were presented on seasonal calendars. Trends were also presented for rainfall, soil fertility and food production over the past forty years.

The various working groups of farmers then presented their findings in a plenary session attended by many of the villagers. During the presentations, problems relating to soil utilisation in the village were identified and discussed. The problems were then listed on cards and the villagers asked to prioritise them. In some cases, men and women prioritised problems separately, followed by a joint prioritisation. This allowed priorities to be analysed by gender.

In all instances, declining crop yields was found to be a problem. Further discussions established a link between this problem and poor soil management practices, resulting in a relative decline in soil fertility over the years. This fact was not appreciated by all farmers (see Conclusion).

Farmers' existing local knowledge on soil management was discussed, followed by the potential for green manuring to improve soil fertility and household incomes. The different types of legumes to be used in green manuring were introduced. Farmers learned that apart from improving soil fertility, these legumes could also be used as food and fodder.

Trial farmer selection

Farmers were asked if they were interested in using green manure. In all cases, they showed interest and were asked to define their criteria for nominating five farmers from each village who would set up a demonstration on their farms. The number of farmers was limited to five to enable simple monitoring of the demonstration. Criteria set by farmers themselves for demonstration/trial farmer selection were that the farmer should be:

- Able to prepare land for the trial;
- Dependent on agriculture as main occupation;
- Based within the village;
- Open and willing to share ideas with other people;
- Accessible to other villagers;
- Able to set aside and fence a ½ acre plot for the demonstration;
- Dedicated and hard working; and,
- Representing the different soil types in the village.

In addition to these criteria, the facilitators also asked farmers to consider other social and economic aspects, such as the resource base of the farmer, the gender and age of the farmer, so that the farmers selected would represent the various groups of interest in the village.

Until about five years ago, the common practice in farmer selection has been for the extensionist or researcher to choose the best farmer, who would then be supported to implement the desired demonstration or research activities on

their farms. The organisation usually rented the farmer's land and paid for all farm inputs including the labour utilised. The shortfall with this arrangement is that it denied the farmer the ownership or partnership in whatever activity took place on the research/demonstration plot. Subsequently low levels of technology adoption were realised.

The current practice, which was used in this exercise, is to empower farmers in a neighbourhood to choose the trial or demonstration farmers from among them, based on their own criteria. However, in some cases the participants tended to elect trial farmers from those attending the exercise, not considering that they whether they represented a wider community or the village. Other farmers were elected *in absentia* based on the villagers trust on their hard work.

In general, about 80 % of the farmers selected continued with the trial, providing their own labour and other resources required for the trials. A few farmers dropped out because their expectations could not be met by the project. Some selected farmers were expecting assistance with labour and farm tools, even though it was made clear that the work belongs to them and the project would only provide seeds which were not available in the locality.

Women as trial farmers

There was a feeling among facilitators that socio-economic factors should have been given more emphasis in the farmer selection process. Only 21% of the trials were undertaken by women. This was in spite of the attempts made by facilitators to create awareness in the communities of the need to have gender balance in the farmers selected.

The few women elected may reflect the fact that few of them attended the PRAs to elect 'one of their own'. This situation could probably be remedied by mobilising as many women as possible to attend PRA meetings. The imbalance could also be rectified by giving women a quota, for example, that half the trial farmers should be women.

A difficulty with attaining gender balance is that in this predominantly Luo tribal land, women do not own land. In most cases they also do not

own oxen used for land preparation, and yet land and oxen formed the major resources that farmers needed to contribute to the trials. We learned later that some women farmers selected lagged behind with activities on their farms because they either had uncertain land tenure or did not have the animal draft needed to prepare the land. Others had fewer farm hands for manual labour and/or inadequate resources to hire labour for weeding and other farm operations

Group labour

The selected farmers and other farmers in the village were expected to provide the labour required on the trial farms in a rotating manner. This should have eased the workload on individual trial farmers. In some cases the idea worked well, while in others it did not for various reasons. These include long distances between the trial farms within the villages, lack of information about the trials, and the labour that was required on the farms.

From these experiences, we recommend that working groups be formed based on a cluster of farmers surrounding the selected trial farmer, who should be at the nucleus of the group. This requires the existence of a community management structure/institution at the village level. None of these existed prior to our project, or if any existed, they were not identified and strengthened by the PRA team and the project staff.

In a few cases, farmers demanded payment for labour on the trial farms. This was probably due to research requirements that certain operations be completed within a short time for control purposes. This problem was minimised through open discussions between the project staff and farmers which yielded a deeper understanding of the trial process on the side of farmers. Farmers were also asked to mobilise their neighbours to give voluntary labour during the peak periods.

Recommendations

From our trials, we recommend the following:

- Adequate time and resources should be allocated to facilitate workshops that promote interaction between the project

staff and community members and between community members themselves.

- The PRA team should comprise policy makers and field. While in the field, preferential treatment to senior staff should be avoided in order to create an enabling environment which is necessary for a PRA team that is strong, dynamic and effective.
- The research activities should be timed to fit into farmers' activity calendars. Required materials should be secured in time and provided to farmers at the right time.
- Existing farmer practices and resource management institutions should be identified and strengthened with the objective of activating local leadership and ownership of the activities implemented.

• Conclusions

When we went for our first discussions with farmers, they observed that their soils are fertile. They stated that the only problem with the soil is water. This generated a discussion on the relationship between soil fertility and its water content. Farmers said that if they get adequate rainfall the yields are good. If rains fail, there is no harvest. We saw in this analysis a clear case of soil infertility because a fertile soil should have sufficient moisture, air, organic matter and mineral elements.

So, we then asked farmers to pick soil samples from under a thicket and others from an open place. The difference was that the soil under the thicket was moist and dark while that from an open place was dry and dusty. At this point farmers realised that we were talking of the same concept in different ways. Thus there was a clear justification for introducing some form of

soil cover. Green manure legumes, such as *Dolichos*, *Mucuna* and *Crotolaria* (Sunnhemp), fitted the description of what farmers needed to improve soil moisture content and fertility in general.

After the exercise, we asked farmers to tell us what they liked about the process of trial farmer selection. Here is what they said. 'We just learned from our own knowledge', meaning that bringing people together enabled them to learn from each other. 'We selected teachers, people we can learn from', meaning that the farmers selected are free and willing to share ideas with people of all classes. Their homesteads are also accessible to all. 'The difference between farmers we have selected and those selected by agriculture staff is that in our process, we all participate in the trials. We know it is for all of us and not for an individual farmer. We all stand to gain from seeing what happens to the new trial crops in the field'.

This is the advantage of participatory farmer selection. In addition, the extension staff were also happy with the process: 'the process makes it easy for us to get many farmers to participate and maintain their participation in trials!'

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