

Figure 2. The local government extension model: Towards making the dissemination of technologies to conserve natural resources and improving farmers' livelihoods part of the existing village programme. Conservation team only works on request directly with individual farmers and subvillage leaders.

This structure spreads the technology on an ever-radiating basis. The breakthrough in this new paradigm occurs when the community leaders assume their roles in the diffusion of the technology transfer, as is now happening in Claveria.

This new paradigm may be viewed as the structured radiation of the farmer-to-farmer method. In a farming community the leaders are farmers themselves. The conservation team is linked with core people who have resources and influence in the community. In the Claveria experience we found that it is easier and more effective to work in a community where there are core people the conservation team can work with rather than conducting the tasks independently. We have been very encouraged to see how proud the farmer leaders are who turn in lists to us of the names of the people they have assisted in establishing NVS. Soil and water conservation practices that include tree planting are now a common topic during the barangay or sitio assemblies or meetings.

Benefits of the LGU-led model

We found a number of significant benefits in the LGU-led conservation team approach: (i) Established social structure and influence. This social structure has been in place for years and the elected officials have the voice in the village that people are willing to listen to. It is an established fact that the people listen to their leaders. The elected officials in the barangay are respected, influential, and can convey messages to the farmers; (ii) Availability of resources that can be mobilized. The resources are both financial and human. The IRA allotment (HES) can be tapped for the implementation of the programmes. For example, a barangay may provide an honorarium to a farmer adopter who assists other farmers to establish NVS (+ provision of nursery supplies). The human resources include the barangay officials, sitio leaders, and sectoral representatives within the barangay that can be mobilized to accelerate dissemination of the technology; (iii) A committed extension agent, a character who is sometimes absent among extension workers. These people opt to serve the people in the village. In a farming community they are farmers sharing with other farmers. It is difficult for these farmer leaders to convince other farmers if they themselves are not practicing the technology.

Our efforts were shifted to barangay leaders because of the potential impact on the technology dissemination process. The conservation team attended barangay council meetings, assemblies, and sitio meetings. It was even invited to show slides on soil-and water-conservation technologies in the barangays and sitios. The training efforts were skewed towards this model. The activity is running well in 11 of the barangays (villages) that the team is working in.

Limitations of the LGU-led model

The brief experience with the LGU-led model of conservation diffusion has been promising. But we have noted two limitations that may have significant repercussions

A change in administration in the barangay may hamper continuity of conservation activities. When we started working with this model in late 1996, the intensity of the activity in the villages varied. Some barangays started conducting sitio training without the participation of the conservation team. During the nursery establishment and management training in January 1997 we focused on getting the participation of barangay officials. Most of the barangay captains we worked with joined the training. After the training they mapped out their plans about barangay nursery establishment, and other activities. Soil-and water-conservation campaigns in the barangays were active. The election for the barangay officials was slated for May 1997. About a month prior to the election, the conservation team stopped dealing with barangay officials because almost all of them were running for reelection. We noted a perception that the team was siding with the incumbents. To avoid this accusation the team ceased to work with these barangays officials chapters. In the election more than half of the barangay officials were not reelected. The installation of the new barangay

officials was done in July. The defeated barangay officials were reluctant to pursue the activities because they were not certain whether the new barangay officials would discontinue the programme, and perhaps out of frustration at not being reelected. It was also difficult to start working with the newly elected officials until they were installed. These new barangay officials required training and exposure, which meant the team, had to start from scratch. Another limitation of this model is when the barangay captain is not a farmer himself. He has no strong support in pursuing the programme.

Table 3 describes strengths, weakness, opportunities, and threats under the LGU model.

Table 3. Local government driven extension model: Making technology dissemination part of the system.

Strengths	Opportunities
<ul style="list-style-type: none"> • The influence of local leaders, usually well-respected farmer colleagues will increase the acceptability of introduced technologies. • Often high commitment of local officials towards serving the people (who elected them). • Same as group approach 	<ul style="list-style-type: none"> • Extension can become part of the village programme directed towards the preservation of the environment and enhancing farmers' livelihoods. • Once village council support is achieved, local government funds intended for environmental projects can be tapped.
Weaknesses	Threats
<p>People of different political orientation than village leaders will be skeptical about introduced ideas and organizations involved</p> <p>Same as group approach</p>	<ul style="list-style-type: none"> • People of different political orientation might try to discredit extension activities and people involved. • The gap between better-off farmers and influential people and poorer and disadvantaged people in the village can become wider. • Political changes during election can make starting from scratch necessary. • Same as group approach.

Building on past experiences: A two-pronged approach

The LGU-led and people's organization (Land Care Association) models have both positive and negative aspects. The LGU model has financial and human resources, and can draw upon what is necessary for effective technology dissemination. But the LGU-led model is affected by political uncertainties (such as the change of administration referred to above).

The people's organization is more stable but has limited resources. It works slowly but surely.

The current dissemination efforts on NVS and establishment of village nurseries are conducted by the barangays and the CLCA chapters (Figure 3). They complement each other. The CLCA gets support from the barangay; the conservation team works through both the people's organization in complementation with the LGU. There are two kinds of nurseries now: one managed by the chapters (at the sitio level) and the other managed by the barangay (barangay level). The CLCA obtains support from the barangays particularly on nursery establishment. There are barangays who consider themselves as CLCA chapters.

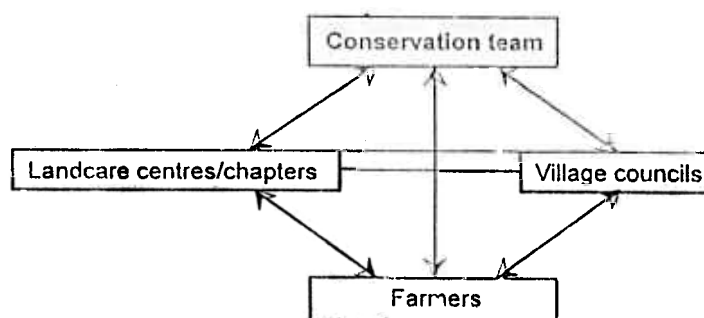


Figure 3. Two-pronged approach: A strong focus on individual chapters and emphasizing the participation and support of the village council to make soil and water conservation and tree planting part of the existing village activities.

There are two people's organizations who joined the CLCA recently: The Angela – a group of ethnic people living in the forest margin; and the Claveria Tree Growers' Association (CTGA) – an association of tree farmers. Each group is considered as one chapter. Angela is interested in joining the association so their members can learn about natural resource conservation through soil and water conservation and tree planting. CTGA wants to join the CLCA so their members can learn about tree planting and silvicultural practices, and also to share their experiences in tree growing. The participation of CTGA is beneficial to the CLCA because CTGA members are mostly professionals who have strong interest in tree planting and who can share their managerial and leadership skills with the CLCA members who lead at the sitio level.

Need for monitoring and evaluation

For monitoring purposes ICRAF has been keeping records of people who have attended a training event or who have been assisted with establishing NVS on their farms, as well as

farmers who have requested ICRAF for assistance. Details on farming and conservation practices, training and follow-up needs are recorded in a *Diagnostic Card System*, which is updated on regular follow-up visits by the ICRAF staff. The leaders of the sitios or local landcare centres (CLCA chapters) have been supporting this activity by facilitating the distribution and collection of diagnostic cards to/from sitio and new CLCA members. As a preliminary evaluation, a survey on the adoption and dissemination progress with emphasis on farmers' technology modification and reasons behind their decision making will be conducted by ICRAF in the second half of 1997, after approximately 1½ years since the start of the extension programme. Specifically, the objectives of the evaluation are (of which some have been presented in this paper):

- a) Documenting the number of farmers who received information on soil-conservation and income-generating technologies since April 1996, either in the form of training, assistance through field establishments ("field demonstrations" by conservation team), or through farmer-to-farmer advice (informal dissemination).
- b) Assessing the rate of technology adoption and informal dissemination, as documented by the number of conservation systems, established with and without the assistance of the conservation team since April 1996, and its maintenance.
- c) Identifying future research needs: Assessing farmers' modifications and addressing identified constraints of the introduced technologies, hence giving guidance to the re-direction of the location-specific research and extension programme.
- d) Documenting the natural process of modification of the applied extension approach in Claveria, together with providing some indicators of the effectiveness of this approach (learning approach) to extension.

Conclusion: Participatory technology development and dissemination — what is next?

Making the conservation farming technology simpler, easier, and convenient to farmers and disseminating it in a participatory way by optimizing the involvement of the members of the community at different levels enhances rapid technology adoption. NVS is the foundation for sloping farmers to evolve into different sustainable agroforestry systems. Institutions providing technical backstopping to them should provide a basket of options farmers can select from.

The bottom line of this development effort is to empower the farmers to manage their natural resources for the next generation to come while providing their current needs. This requires capacity building for these farmers who have formed themselves into cohesive groups, aimed to conserve natural resources while improving their way of living.

The participation of the CTGA to the CLCA provides a window for the members to learn managerial and leadership skills that are lacking in the village chapters. Further strengthening of these chapters is necessary so they will become a coherent and dynamic group in the village for successful conservation farming.

We are planning to scale up our efforts for the villages in the upper watershed of Claveria that requested earlier. We would also like to adopt the same concept in other municipalities to evaluate whether the method is practical in other areas, and make necessary adaptations whenever they are warranted.

The role of the conservation team does not end when farmers establish NVS, but it is the beginning of a long-term relationship. We will continue to work with these farmers and monitor and evaluate their development. This can be done by using the diagnostic card.

Building upon the structure of conservation dissemination at the sitio level, we might consider the prospect of assisting each sitio leader to develop a coordinated plan for assisting all the farmers in transforming their farming systems towards conservation.

The plan of activities within a sitio might be: Develop a sketch map of all the farms showing the slope of each field and the cropping system for each field. Check the estimated erosion presumed to occur on a field (field basis) using a simplified RUSLE procedure. Compare the estimated rates of erosion against the regulations of the municipality and against recommendations for good conservation farming.

For fields that do not meet minimum standards, families need to discuss and propose a conservation programme that will meet the conservation needs with minimum labour and other criteria.

These ideas would be based on the development of a clear set of criteria upon which to judge the success of conservation at the sitio level. These should be based on reasonable estimates of soil loss for the target fields under current and prospective land uses. The simple use of the RUSLE comes into play here.

ICRAF could work with a set of specific sitios to go through the entire process and develop a set of protocols for scaling up to the barangay and the municipality levels.

We ought to evolve some form of recognition for farmers who have met the minimum criteria for proper land husbandry: A certificate. And for those who have exceeded the criteria – a prize of some kind.

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