

## **Chapter 5**

### **Development of the Landcare Program in Claveria**

#### **5.1. Introduction**

The history of Landcare in Claveria is traceable within three interconnected processes: (1) participatory technology development; (2) participatory technology dissemination through the Contour Hedgerow Team (CHET) and the Claveria Landcare Association (CLCA); and (3) social mobilisation through the landcare approach. This chapter describes these processes. Specifically, it discusses the activities and impacts, management and costs of implementation, and perspectives of key actors, leading on to a discussion of the enhancing and limiting factors for success.

#### **5.2. Sources of Data**

The study was based on five main sources of data: (1) eight focus groups; (2) farmer interviews; (3) key informant (KI) interviews with local government officials and Landcare facilitators; (3) ICRAF reports, publications, and PhD theses; and (5) local government statistics (Table 5.1). For focus group discussion (FGD), Landcare facilitators selected the focus groups (see also Appendix 4.1). Half the interviewed farmers were selected from participants of the FGD, while facilitators selected the others depending on their availability at the time of fieldwork. Except for the CLCA, all FGDs and interviews were held from September to October 2002. Thirteen LGU informants were grouped according to their involvement with the Landcare Program. The first group had supporting roles comprising the Mayor, Vice Mayor, Municipal Councillors (*Kagawads*), and Municipal Planning Officer. The second group, which comprised the barangay officials and technicians, was more directly involved in implementing activities. A total of 140 participants were involved in the case study.

**Table 5.1** Sources of data and methods of collection for Claveria case study

<b>Data Sources</b>	<b>Methods of Data Collection</b>				
	Number of interviewees/informants	Date of Interview	FGD Participants	Date of FGD	Documents Review
Lanise sub-chapter	6	10.10.02	8	10.10.02	
Luna sub-chapter	6	10.10.02	9	10.10.02	
PATRIMUPCO	4	11.10.02	14	11.10.02	
Patrocenio chapter	10	12.10.02	10	12.10.02	
Linandang chapter	11	22.10.02	11	22.10.02	
Farmbugas chapter	18	13.10.02	18	13.10.02	
Madaguing chapter	9	11.10.02	9	11.02.02	
CLCA	10	09.1-15.02	8		
<b>Total farmers</b>	<b>75</b>		<b>87</b>		
<b>LGU officials/staff</b>	<b>13</b>	09.26.02			
<b>Facilitators</b>	<b>7</b>	09.10.02; 12.10.02			
<b>ICRAF senior staff</b>	<b>1</b>				
ICRAF Documents					-
LGU Profiles					-
<b>Total</b>	<b>96</b>		<b>87*</b>		

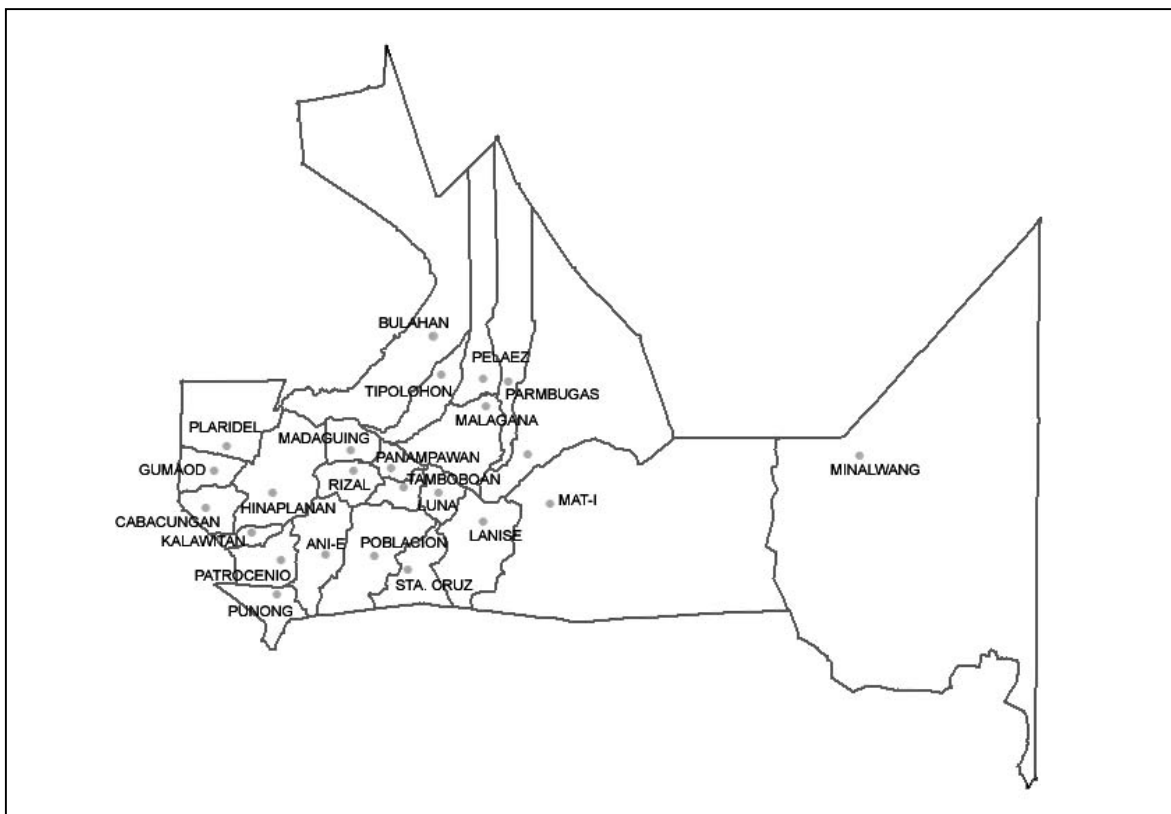
\*Half of FGD participants were also interviewed.

### 5.3. The Municipality of Claveria, Misamis Oriental

Claveria is located 40 kilometres northeast of Cagayan de Oro City, the provincial capital. It is the largest municipality of Misamis Oriental with a land area of 82,998 hectares. Of this, 58,800 hectares (71 per cent) are classified as public lands and 24,197 hectares (29 per cent) are alienable and disposable (A&D). The municipality is politically subdivided into 24 barangays (Figure 5.1).

#### 5.3.1. Landscape, Population and Economy

Claveria's landscape consists of steep mountains and rolling hills, comprising 68 per cent of its total land area; only 7 per cent of the lands are classified as level to gently sloping with slopes up to 3 per cent (Stark 2000). Its elevation ranges from 350 to 2,500 metres above sea level (masl). From 1997 to 1999, the average annual rainfall was 3,208 mm, and the average number of rainy days was 271. Generally, Claveria's soils are well drained with moderate depth and various textures. Farmers are concerned with the consequences of excessive soil erosion, since high rainfall causes severe erosion on slopes that have insufficient cover, and 59 per cent of the cropping occurs on lands of more than 15 per cent slope (Fujisaka et al. 1995; Stark 2000).



**Figure 5.1** Municipality of Claveria, Misamis Oriental, showing barangay centres and boundaries  
Source: ICRAF database, Claveria

The National Statistics Office (NSO) recorded a population of 41,109 in 2003. This resulted in an average population density of 21 persons per square kilometre, though this was higher in the southwestern portion of the municipality. The three major ethnic groups are Cebuano (79 per cent), Boholano (6 per cent), Camiguin (1 per cent) and about 14 per cent representing several groups such as Tagalog, Hiligaynon, Ilocano, Waray, and Maranao.

The total area of agricultural lands is 30,130 hectares, but only 55 per cent is currently farmed due to absentee private land ownership and government ownership for reforestation projects. Sixty one per cent of the lands are titled, while 16 per cent are tenanted. Seventy nine per cent of the total households (6,233) are engaged in farming with an average farm size of three hectares. Six per cent of farmers are seasonally employed as farm labourers, while nine per cent of the labour force is employed in business, government, and educational institutions. The eastern section of Claveria (upper Claveria) is characterised by vegetable-based farming, while the western section (lower Claveria) is cereal-based,

though root crops, and fruit and timber trees are also commonly grown. However, corn is predominantly grown across the landscape, occupying more than 50 per cent of the total cropped area (Table 5.2). Claveria is a major supplier of agricultural products to Mindanao's northern economic zone, the Cagayan-Iligan-Corridor (CIC). Its high production potential and proximity to urban and peri-urban centres is an advantage. Marketing, credit and financing are provided by local financing institutions (rural banks).

**Table 5.2** Crops planted in Claveria, Misamis Oriental

Type of crops	Area planted (ha)	Percent of cropped area
Rice	399.00	2.41
Corn	8,460.00	51.14
Alternate/mixed crop	2,367.00	14.30
Mixed temporary crops	3,660.75	22.13
Mixed permanent crops	1,657.00	10.02
<b>Total</b>	<b>16,543.75</b>	<b>100.00</b>

Source: Bureau of Agricultural Statistics, Barangay Screening Survey, 1999

The road network of Claveria stretches to 439 kilometres (Claveria Municipal Government 2002), but only 10 per cent of this is paved. Public utility jeepneys are the main transportation mode in areas with passable roads. Modified motorcycles or *habal-habal* are the main transportation in areas that are inaccessible by jeepneys. The Misamis Oriental II Electric Service Cooperative Inc (MORESCO) supplies power to 23 barangays, but only 3,020 households (36 per cent) have electric power since many farmhouses are remotely located. The municipal water system supplies potable drinking water tapped from wells and springs. A 16-line telephone service supplied by the Misamis Oriental Telephone Company (MisOr Tel) is costly; hence, only the Misamis Oriental School of Agricultural Technology (MOSCAT), the LGU, and well-off residents have accessed this service. However, many residents are now enjoying the convenience of mobile telephones.

### **5.3.2. Local Governance and Institutions**

Claveria was classified as a second-class municipality with an annual income of 50 million pesos in 2002. The LGU has 193 municipal employees. The Municipal Development Council (MDC) is a multi-sectoral planning body headed by the Mayor. The LGU has 12 special multi-sectoral bodies to handle sectoral concerns, including the Municipal Solid Waste Management Board. In 2002, the LGU accredited 50 people's organisations (POs),

including 17 farmer organisations. Of these, seven organisations were represented in the MDC.

The Municipal Agriculture Office (MAO) has 10 agricultural technicians, and an average annual budget of 2,000,000 pesos. Seventy per cent of the annual expenditures were for personnel services, with the remainder for maintenance and operating expenses (Table 5.3). In addition, the Municipal Council (*Sangguniang Bayan*) formulated a Local Environmental Code (LEC), and has allocated 2,595,000 pesos for environmental management projects from 1998 to 2002.

**Table 5.3** Annual budget of the Municipal Agriculture Office in Claveria, 1998-2003

<b>Budget Item</b>	<b>1998</b>	<b>1999</b>	<b>2000</b>	<b>2001</b>	<b>2002</b>	<b>2003</b>
Personnel Services	1,594,269	2,205,269	1,797,664	1,859,352	1,695,566	1,829,663
Maintenance, Operating & other Expenses	631,000	1,600,269	605,000	1,105,000	97,150	2,188,000
<b>Total</b>	<b>2,225,269</b>	<b>2,205,269</b>	<b>2,402,664</b>	<b>2,964,352</b>	<b>1,792,716</b>	<b>4,032,663</b>

Source: Municipal Annual Reports, Claveria

Aside from the municipal government, MOSCAT is the most prominent institution, established in 1983 to offer agriculture and agroforestry courses. It has collaborative research projects with national and international research institutions, including the University of the Philippines (UP), the Philippine Council for Agriculture, Forestry and Natural Resources Research and Development (PCARRD), Department of Environment and Natural Resources (DENR), the International Rice Research Institute (IRRI), and the World Agroforestry Centre (ICRAF). The LGU's track record on partnership initiatives dates back to the early 1980s. The majority of project interventions applied community-based principles and participatory approaches.

#### **5.4. Development of the Landcare Program**

The Landcare Program evolved through ICRAF's research program in Claveria based on three interconnected processes: (1) participatory technology development; (2) participatory technology dissemination; and (3) social mobilisation through the landcare approach. Before ICRAF began work in Claveria, however, technologists of the Department of Agriculture (DA) initiated the promotion of Sloping Agricultural Land Technology (SALT) in the early 1980s. SALT is an elaborate and highly specific package of soil conservation

and crop production technologies, based on contour hedgerows, that involves 10 basic steps and four alternative versions (SALT I to IV). The Mindanao Baptist Rural Life Centre (MBRLC) in Davao del Sur in the southern Philippines introduced the SALT system in the 1980s. In 1987, DA technicians and IRRI researchers jointly undertook a structured initiative in soil conservation promotion as part of a collaborative research project on upland rice farming systems. Until 1992, IRRI had been training farmers in the contour hedgerow system using shrub legumes. Fujisaka (1993) estimated that 80 farmers had adopted the technology by late 1992.

#### **5.4.1. Participatory Technology Development: ICRAF's Research Programme**

ICRAF became involved in farmer-participatory on-farm research on contour hedgerow systems when IRRI handed over its research site in Claveria in 1993. ICRAF's research then focused on examining the technical and institutional constraints to the conventional hedgerow system. The research goals were to develop practical, low-cost conservation farming and agroforestry systems that were suited to resource-poor smallholders in sloping uplands. The study was part of the Centre's Systems Improvement Program in the context of the global Alternatives to Slash-and-Burn (ASB) Project, which ICRAF coordinates at the global level (Stark 2000).

ICRAF studies found that Natural Vegetative Filter Strips (NVS) are as effective as SALT in controlling soil erosion, and could be a superior low-cost technology in the uplands. The NVS evolved as a variant of the SALT system when farmers experimented with the hedgerow concept by placing crop residues along the contour lines and leaving the native weeds to re-vegetate in the unplanted strips, eventually forming stable natural barriers to erosion (Garrity & Mercado 1994; Sabio 2002; Stark 2000). It was found that NVS provide minimal below and above ground competition effects, and are effective in filtering field run-off by more than 90 per cent in a sloping farm of 40-60 per cent slope (Garrity et al. 2002; Garrity et al. 1998). The advantages of NVS were summarised as follows: (1) they control soil erosion by more than 90 per cent and improve water infiltration during heavy rains; (2) they have low labour and cost requirements for establishment and maintenance; (3) they provide minimal competition with adjacent field crops; (4) they filter pesticides, nitrates and soluble phosphorus from water runoff; (5) they make subsequent

land preparation and crop management easier; and (6) they provide a good foundation for farmers to develop agroforestry farms to increase productivity.

Once the NVS were in place, many farmers enriched them by planting timber trees, annuals or perennials on or above the NVS to compensate for the lost crop area, and to improve total farm productivity. Farmers planted timber trees including *Eucalyptus spp.*, *Acacia spp.* and *Gmelina arborea*, and fruit tree species such as mangoes, rambutan, durian, citrus, and jackfruit. Spacing of trees depended upon the farmer's future plan for his farm. With closer spacing, tree canopies started to close between three to four years after planting, thus limiting the penetration of sunlight to the alley crops. Except when farmers opted for shade-tolerant plants or introduced ruminants under the trees, this system was no longer feasible for continuous cropping in the alleys. Wider alleys allowed farmers to plant annual food crops between the rows of the trees and grow fodder grasses between trees along the row. A wider spacing of NVS was found to be very useful for farmers who desired to continue growing food crops as the fruit and timber trees matured. Cash perennial hedgerows, like pineapple, banana, guava and coffee were also experimented with by farmers, who found that they earned more from cash crops than from the corn or annuals planted in the alleys. As a consequence, farmers progressively reduced the spacing of hedgerows in order to have more rows for cash crops. Forage legumes like *Flemingia congesta* and *Desmodium rensoni* were also planted by farmers. ICRAF described this process as the evolution of smallholder agroforestry (Figure 5.2).

According to Sabio (2002), farmers realised the flexibility offered by NVS and its suitability to varying levels of needs, resources, and preferences. He adds that farmers were able to recapture their decision-making ability through the technology they themselves discovered. It was observed that more and more farmers were becoming interested in NVS and were adopting it on their farms quite spontaneously. By 1995, ICRAF recorded 189 farmers adopting the contour hedgerow system, with NVS the most dominant type of hedgerow. As many farmers were becoming aware of ICRAF's on-going research on NVS, more farmers approached ICRAF to request training.



**Figure 5.2** Evolution of agroforestry: NVS enriched with banana hedgerows, Rodrigo Dumalon's farm, Cacawon, Patrocenio, Claveria.  
Source: ICRAF database, Claveria.

#### **5.4.2. Participatory Technology Dissemination: The CHET and CLCA**

The initial uptake of NVS encouraged ICRAF to examine the phenomenon further (Sabio 2002; Stark 2000). The aim was to answer the question how public sector research and extension institutions could develop more effective techniques to diffuse the NVS technology rapidly to a large number of interested farmers (Garrity et al. 1998; Stark 2000). By that time, there was increasing demand for training in soil conservation technologies, and ICRAF responded by setting up an extension team in early 1996 in partnership with the municipal government. The so-called Contour Hedgerow Extension Team (CHET) was a three-member team of a trained farmer, an agricultural technician, and an ICRAF staff member. The farmer-trainer was compensated by ICRAF for his time, and the municipal government supported the technician (Arcenas 2002; Stark 2000). The CHET began training individual farmers but moved to group training when the demands were too high to accommodate the individual requests.

In the middle of 1996, the trained farmers expressed their interest in further training. An ICRAF researcher advised that it would be easier to extend help if they were organised. The farmers were quick in responding to this idea and agreed to organise themselves into a



farmer association, which was named the Claveria Landcare Association (CLCA) (Arcenas 2002; Sabio 2002; Stark 2000). The goal was to unite farmers in their efforts to sustain and improve agricultural production in the uplands and to make more productive use of natural resources (Stark 2000). Of interest are the different stories related as to how “Landcare” came about as a name for the newly formed group. Previous studies cited that Landcare was taken from a sticker on the ICRAF vehicle, while the CLCA President claimed that it was the group’s idea as the members were looking for a word that would capture the practical message of soil and water conservation.<sup>1</sup> On the other hand, an ICRAF scientist claimed to have suggested the name with reference to Australian Landcare, although there was no contact between ICRAF and Australian Landcare at that time.<sup>2</sup>

By 1997 ICRAF records show that 250 farmers had been trained by the CHET, and 100 had joined the CLCA. The CHET continued to implement group training, but shifted its strategy to working intensively with LGU officials and the CLCA. Mercado and Garrity (2000) referred this strategy as the “Two-Pronged Approach”. Under this new collaboration, barangay officials and technicians were involved by assisting ICRAF and the CLCA organise meetings and implement training sessions in the barangays. At this point, the CHET model was virtually abandoned in favour of the newly established partnership between the CLCA, ICRAF, and the barangay government (Arcenas 2002). This marked the beginnings of Landcare in Claveria.

#### **5.4.3. Social Mobilisation: The landcare approach**

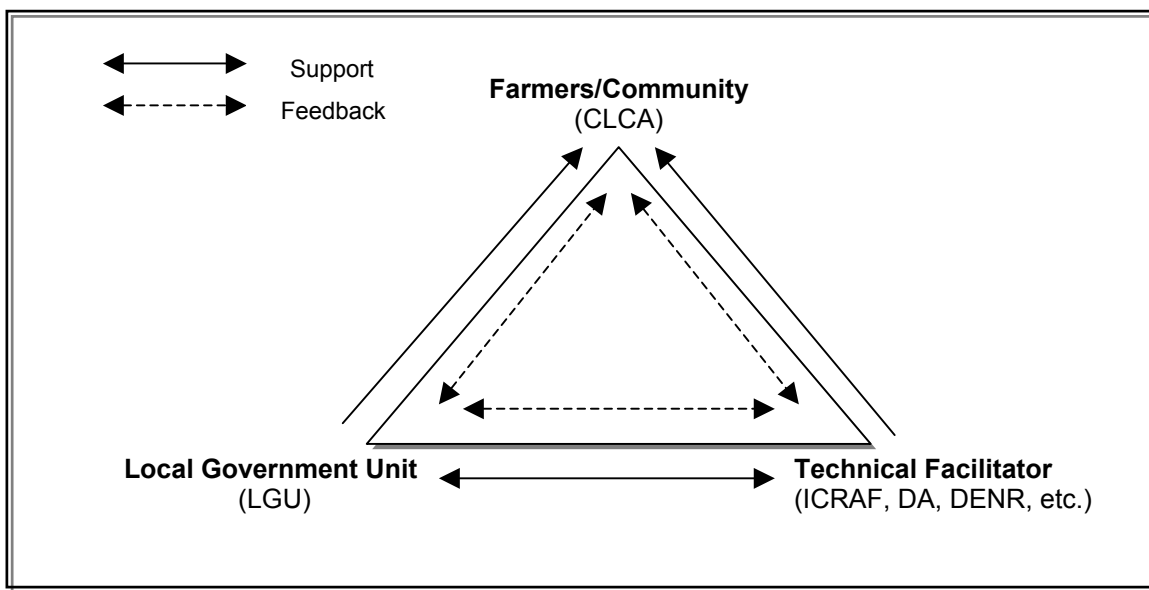
##### ***a. What is the landcare approach?***

The landcare approach grew out of the newly formed partnership of three key actors namely, the CLCA, ICRAF, and the LGU, which was working to promote adoption of NVS. ICRAF researchers, Agustin Mercado and Dennis Garrity conceptualised the landcare approach as a three-way partnership, referred as the “triadic partnership” or the “landcare triangle” (Figure 5.3).

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<sup>1</sup> Based on an informal conversation with Marcelino Patindol in 1999.

<sup>2</sup> Dennis Garrity, formerly ICRAF-Philippines’ Principal Scientist and currently ICRAF’s Director General.



**Figure 5.3** The Landcare triangle as experienced in Claveria.

Source: ICRAF database, Claveria.

The key activities, which were also considered by ICRAF as essential “elements” of the landcare approach, were: (1) promotion of appropriate technologies; (2) institution building through formation of landcare groups; and (3) building partnerships amongst landcare groups, LGU officials, ICRAF and other agencies. At some point, these “elements” were referred to as “components” or “facets” of the landcare approach. More recently, the term “cornerstones” was used to consolidate the substance of the previous terms used. At this point, ICRAF emphasised that promoting appropriate technologies, building institutions, and partnerships were not only activities but, more importantly, were the goals and bases of the Landcare Program. Hence, as conceived by ICRAF, the landcare approach comprised three cornerstones, namely promotion of appropriate technologies, building institutions, and partnerships. Thus the landcare triangle, or three-way partnership, which was initially the main concept of the landcare approach, was embodied as one of the cornerstones of the landcare approach.

In 1998, there were several definitions of the landcare approach, but the most widely used was, “Landcare is an approach that fosters rapid and inexpensive dissemination of conservation farming technologies among upland farmers, based on their innate interest in learning and sharing knowledge about technologies that earn more money and conserve natural resources” (Garrity 2000; Garrity et al. 2003; Mercado et al. 2002). In 2000,

ICRAF had another definition of Landcare, referring to groups of farmers who are interested in working together for the long-term health of the land. This definition carried a strong social dimension, and was similar to that of Australian Landcare (Chapter 2), but it was unclear whether this emerged from ICRAF's interaction with some figures in Australian Landcare in 2000, or was a homegrown ramification of the growing involvement of farmers in Landcare activities. Similar to Landcare in Australia, the evolution of the landcare approach in Claveria raised questions about its true nature. In 2001, there were other ideas attached to Landcare, including an ethic or philosophy, a movement, a community development approach, or a set of appropriate land management practices (Queblatin 2001). The development of the landcare approach was thus conceptualised as it evolved in Claveria.

***b. Roles of different actors in the landcare approach***

The role of ICRAF: Since ICRAF had conceptualised the landcare approach it assumed managerial responsibility, but it did not explicitly claim ownership of Landcare, nor did it initially consider Landcare as a program per se. For ICRAF's part, Landcare was more of an approach that it was testing for the purpose of learning how promotion of technologies could be done better. However, ICRAF found implementing the landcare approach challenging, given that development activities were not, at that time, an explicit part of its institutional mandate. Balancing quality research and implementing a development-oriented program had become a double act for the staff. On the other hand, ICRAF had an advantage because it had more flexibility in the use of approaches, allowing for explicit experimentation with the landcare approach. According to Garrity (2000), ICRAF's financial limitation was a blessing in disguise as it promoted the search for partnerships.

The initial success of the landcare approach in promoting NVS and agroforestry sparked the interest of funding agencies. By 1999, the Spanish Agency for International Cooperation (AECI) provided funding to support ICRAF's work with Landcare, and the Australian Centre for International Agricultural Research (ACIAR) followed in 2000. This enabled ICRAF to increase the intensity of its work and to support scaling up efforts. With such funding support, the Landcare Program was launched.

Several issues were encountered during the early stage of Landcare. At first, the ICRAF Site Coordinator was alleged to be mobilising the CLCA for his own political interest. It was suggested that he was interested in running for public office, and some officials felt threatened by his growing popularity among farmers.<sup>3</sup> This prompted him to dialogue with some local officials, explaining that ICRAF's intentions were pure and unmotivated by personal interest. Another issue was feedback that ICRAF was using the farmers to boost its own work, and was competing with the LGU extension program.<sup>4</sup> This impression was because Landcare facilitators were better equipped in terms of communication and mobility. Also, since ICRAF was an international agency, farmers' expectations of material and financial assistance were raised, based on past projects. This type of support was absent in Landcare; hence some farmers suspected that ICRAF was using the resources that were due to them. While this was incorrect, it reflected the kind of experience poor people had in the past where, instead of empowerment, people experienced ineffective, irrelevant, and corrupt services. Eventually, these issues faded with improved communication and relationships between Landcare facilitators, the ICRAF Site Coordinator, the LGU officials and technicians, and the farmers, all of whom participated in the CLCA's regular monthly meetings.

Apart from the administrative support and technical backing from an ICRAF scientist and one full-time researcher, the costs incurred by ICRAF for Landcare were primarily due to the employment of facilitators and operating expenses. By 1997, two ICRAF staff were appointed as Landcare facilitators. In the following year, two newly graduated students of MOSCAT joined as "volunteer" facilitators, paid at a lower rate. On average, six Landcare facilitators were continuously employed from 1999 to 2003. A training officer, development communication specialist, and driver were also hired in 2000. Non-salary costs included training and operating expenses. Training costs primarily covered the seeds used for training in nursery establishment, while operating expenses covered petrol, supplies and materials. Motorcycles, computers, projectors, and the jeepney (a vehicle used

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<sup>3</sup> Based on several conversations with Mr. Agustin Mercado in 1999.

<sup>4</sup> Based on several informal conversations with Landcare facilitators in 2001.

for transporting farmers during training and farm visits) were capital items. Petrol consumption of 129 litres per month or 1,548 litres per year was estimated, amounting to 36,378 pesos per year. The largest budget for Landcare was in 2000, but this was reduced by more than half in 2001 (Table 5.4). This continued to decrease in subsequent years, even if the intensity of work increased, particularly with training activities. This was possible because the LGU partners shouldered the expenses for on-ground activities, such as training and other nursery materials.

**Table 5.4** ICRAF's annual budget for the Landcare Program in Claveria, 1999-2003

Year	Staff Costs (USD)	Operating Costs (USD)					Total
		Training	Travel	Supplies	General Expenses	Capital Expenditures	
1999	3,321	0	3,773	1,569	637	2,026	11,326
2000	50,084	5,719	18,616	7,934	7,197	0	89,550
2001	6,134	15,178	10,975	6,225	6,040	0	44,552
2002	14,698	6,177	9,000	2,940	6,978	0	39,793
2003	5,368	500	2,571	2,000	1,400	0	11,839

Source: ICRAF Philippines File

There was a limited number of ICRAF staff directly involved in the Landcare Program, namely, the Principal Scientist, one full-time researcher, one training officer, and six Landcare facilitators. Hence, the Landcare Program was a relatively small initiative of a large institution like ICRAF. Undoubtedly, the personalities of the individual staff contributed significantly to the development of the Landcare Program. However, for brevity of discussion, the decisions and activities of these actors are attributed to the corporate entity, "ICRAF" throughout this thesis.

The role of the LGU: The CLCA and ICRAF were directly linked to the LGU through the committee on agriculture and environment of the *Sangguniang Bayan*. The technicians were closely working with ICRAF and the CLCA to provide technical support and to channel activities to landcare groups. Following the municipal structure, the barangay captains and committees on agriculture and environment served as contact persons. The *kagawads* assigned in the sitios helped coordinate activities through the sitio presidents who liaised with barangay officials. In many cases, they were automatically appointed as presidents of landcare groups due to limited sitio leadership. This dual responsibility, according to Sabio (2002), provided some advantages in terms of communication and use

of limited resources. Local officials attended the CLCA meetings and helped promote Landcare. According to Sabio (2002), the occasional attendance of the Mayor and Vice-Mayor to deliver speeches in Landcare meetings was encouraging, as they underscored the farmers' contribution to the development of Claveria.

Apart from the technicians' involvement, the most significant support of the municipal government was the passage of local policies. The *Sangguniang Bayan* passed Municipal Ordinance No. 97-09 in October 1997, which mandated an annual budget of 50,000 pesos per barangay for the establishment of botanical nurseries, amounting to 1,200,000 pesos for the 24 barangays. This budget was taken from the share of the Human and Ecological Security (HES) funds of the municipal government. Some of this budget was re-aligned to pay for transportation of leaders attending Landcare meetings. The second policy, Municipal Resolution No. 183 that was passed in November 1998, mandated the adoption of soil and water conservation technologies by farmers cultivating sloping lands. Under this ordinance, assistance for loans and subsidies was prioritised to farmers who applied conservation technologies, while violators were not recommended for assistance. Barangay officials and landcare leaders campaigned for this ordinance, which did not receive violent reaction from farmers.

Kiel (1999) surveyed farmers' perceptions of this ordinance and found that the majority of surveyed farmers were convinced of the benefits of the new law and did not see this as a form of coercion. During fieldwork, however, it was learned that the enforcement of this policy had been limited. Nonetheless, the President of the Association of Barangay Captains (ABC)<sup>5</sup> found it easy to implement the ordinance because many farmers in his area were already adopting these technologies before the law was passed.<sup>6</sup> He said that, "farmers would readily adopt new technologies if they were better than the ones they superseded, even without a law". On the other hand, he thought that the law might encourage adoption particularly in barangays that were just starting to implement Landcare.

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<sup>5</sup> Barangay captains elect a president to represent them as an ex-officio member of the *Sangguniang Bayan*. The ABC President liase between barangay captains and the municipal government.

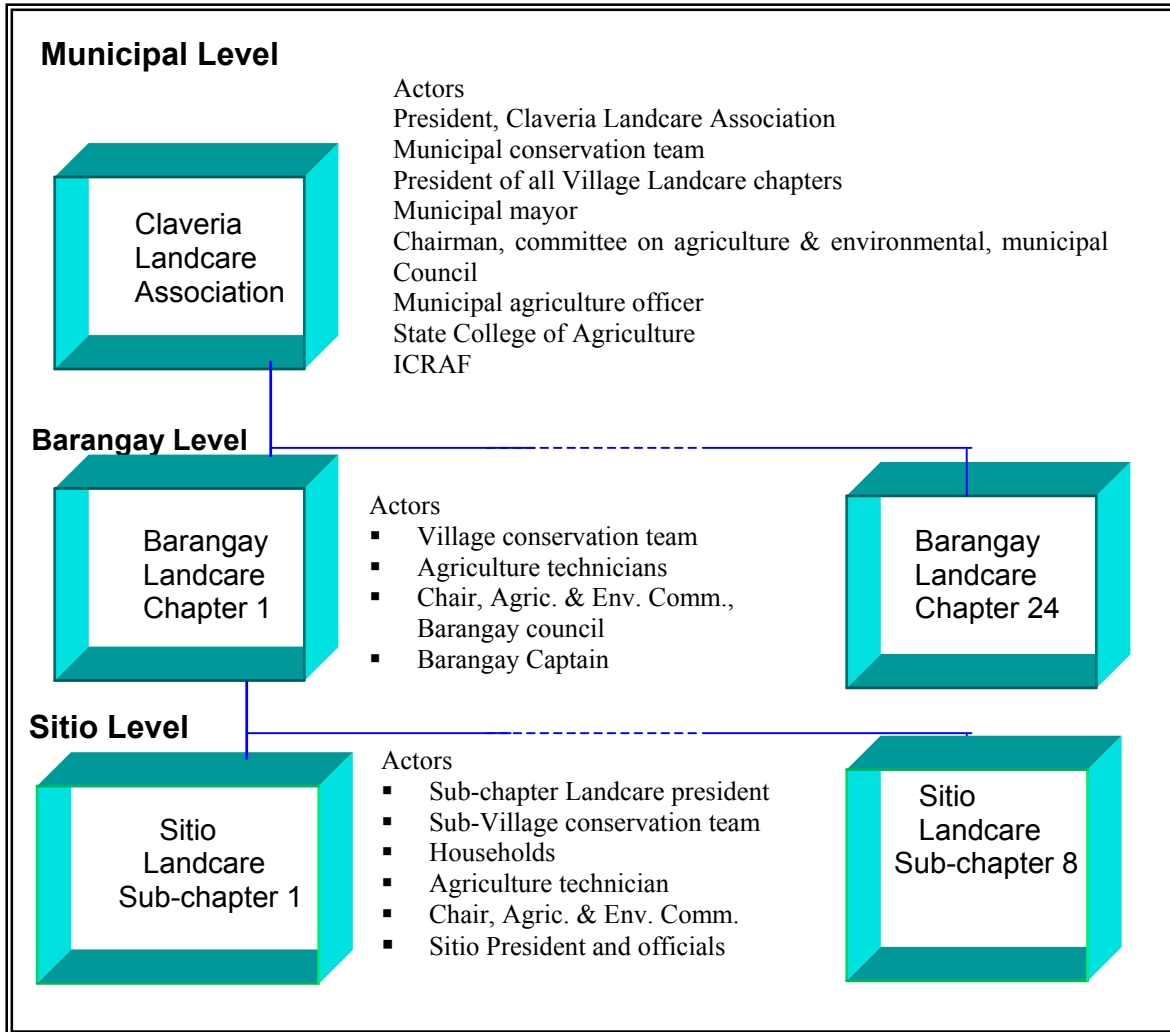
<sup>6</sup> Interview with Mr. Jose Casino, ABC President, 10 October 2002, Lanise, Claveria.

His view was well founded since Ani-e (where he was Barangay Captain) had 282 adopters, the highest adoption among the 24 barangays. However, the influence of this policy on technology adoption needs to be established; a study on the effectiveness of this policy would benefit the policy makers for future policy intervention.

The Landcare Program was also integrated in national government programs such as the Comprehensive Agrarian Reform Program (CARP) and Community-Based Forest Management (CBFM) Program. The Department of Agrarian Reform (DAR) was in charge of implementing the CARP, but the DAR personnel usually lacked expertise in farming technologies. Also, the DENR personnel found Landcare complementary given their limited skills in agroforestry. Landcare facilitators and technicians thus filled this technical gap. Farmers in CBFM areas were organised around land ownership issues, hence formation of landcare groups in these areas was unnecessary. In sum, the three-way partnership was assumed under the CBFM and CARP schemes where the LGU, landcare or CBFM farmer groups, personnel from DENR and DAR, as well as ICRAF were all involved.

The role of landcare groups and the CLCA: Farmers completed the three-way partnership by bringing their own resources in terms of time, labour, knowledge, and some low-cost materials. Such contributions, however, were not always incurred in terms of money, and were hardly even recognised as costs by farmers. Farmers were formed into a landcare sub-chapter at the sitio level, which were congregated into a landcare chapter at the barangay level. The CLCA, then, represented a municipal wide association of landcare chapters that interacted with the LGU and ICRAF. CLCA officers helped in implementing training sessions and slide shows, and advocated for financial and policy support from the LGU.

Figure 5.4 presents the organisational structure of the CLCA in Claveria.



**Figure 5.4** Organisational structure of the CLCA in Claveria  
Source: ICAF database, Claveria

The CLCA was registered with the Philippine Securities and Exchange Commission (SEC) to acquire a legal personality. The SEC conferred legitimacy on the CLCA and required a formal operation in accordance with its constitution and by-laws. However, the CLCA operated quite informally, with loose membership criteria and organisational styles, particularly at the sub-chapter level. Arcenas (2002) found that despite ICRAF's efforts to guide the organisation of chapters on a common basis, variation in the CLCA's rules and criteria for leadership and membership selection persisted among the chapters and sub-chapters.



The CLCA President disclosed that although the CLCA was supposed to manage the activities of the chapters many of these were rather autonomous from the CLCA.<sup>7</sup> However, the direct link of the sub-chapter leaders to the CLCA was well established through regular monthly meetings where each president delivered a report. The monthly meetings, which usually lasted for one day, were rotated in every chapter to establish a closer relationship between the CLCA and the sub-chapters. LGU officials, technicians, facilitators and other agencies attended the monthly meetings. Usually barangay governments sponsored the meals, while ICRAF provided logistical support. It was observed that the CLCA meetings were not only effective in improving communication, but more importantly, these engendered better understanding among the actors which helped to strengthen their relationship.<sup>8</sup> The ICRAF Site Coordinator added that the monthly meetings were a good venue for interaction and building camaraderie<sup>9</sup>, it was possible that some government officials took advantage for political posturing.

Upon the accreditation of the CLCA by the LGU in 2000, it was invited to be represented in Claveria's Municipal Development Council (MDC). This provided an opportunity for promoting Landcare to other sectors, and was found effective in maintaining the good relationship of the LGU and the CLCA. The increasing popularity of the CLCA drew the attention and support of other non-government organisations (NGOs), such as the Philippine-German Fund, which supported a draught animal dispersal project.

Previous studies agree that the CLCA served as backbone of the achievements and success of Landcare in Claveria (Arcenas 2002; Stark 2000). According to Arcenas (2002), many of the sub-chapter leaders were exceptional in their commitment to promote soil conservation. This was confirmed in the fieldwork for the present study. For instance, the sub-chapter President of Luna went out of his way to help his relatives and friends in establishing NVS on their farms, while the CLCA President, a retired soldier and former Barangay Captain of Sta. Cruz, personally advocated integrating Landcare in a local church

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<sup>7</sup> Interview with Marcelino Patindol, CLCA President, 12 January 2003, Sta. Cruz, Claveria.

<sup>8</sup> I made these observations while attending in several CLCA meetings from 1999 to 2000.

<sup>9</sup> Interview with Mr. Agustin Mercado, August 2002 & November 2003, ICRAF Office, Claveria.

service. Their efforts were recognised to have gone beyond the normal duty of leadership to express a high degree of altruism. Also, many of the CLCA leaders were at the same time barangay officials, indicating the significant roles of local influentials. According to Stark (2000), the participation of local influentials had in fact facilitated soil conservation adoption and the establishment of tree nurseries.

Thus the considerable voluntary efforts, leadership and network of the CLCA and the sub-chapter leaders contributed much to the success of Landcare. A similar observation was made by Arcenas (2002) who found that the CLCA's contribution to promoting conservation farming was well established. He adds that, as an organisation, the CLCA rated strongly on consensus and participatory decision-making and leadership selection, and fair in terms of sustainability as a democratic institution of leadership. Its weakness was in the area of membership recruitment and funding. Both Sabio (2002) and Arcenas (2002) agree that in all these efforts, farmers and the CLCA were at the centre of the partnership initiative.

## **5.5. Activities and Impacts**

Information dissemination, training, and group formation were the common activities of the Landcare Program. Landcare facilitators initiated much of these activities, with the help of the CLCA, barangay officials, and technicians. Some activities were also implemented to address specific needs.

### **5.5.1. Slide Shows, Training and Group Formation**

Landcare was usually introduced in the barangays through slide shows, which were found effective in bringing the intended message because they featured farmer's testimonies with a systematic discussion of the technologies. The majority of interviewed farmers said that the slide shows attracted them to Landcare. The ICRAF Site Coordinator, who had established himself as a respected researcher and resident of Claveria, normally handled the slide shows. His credibility, and ICRAF's reputation as a research institution, increased farmers' interest in the slide shows.

Two major impacts of the slide shows were observed.<sup>10</sup> First, they raised farmers' awareness and created peer pressure. In one of the slide shows, a farmer revealed his desire to be featured in the slide show since he felt that he could do the same on his farm. Second, these provided a good opportunity for social bonding as food and drinks were served and farmers stayed longer to socialise with other farmers and barangay officials. Most of the slide shows were held in the evening to ensure that farmers had the time to participate; hence it was a genuine sacrifice for barangay officials, facilitators, and farmers to spend late nights for this activity.

Although not a rule, a training session usually followed a slide show. ICRAF records show that 3,435 farmers had participated in 236 training sessions from 1996 to 2001. The training areas included (1) NVS and nursery establishment, (2) fruit and timber tree management, (3) animal health care, (4) bee keeping, (5) action planning, and (6) leadership and needs assessment. Later on, training sessions for water quality monitoring, and training of trainers (TOT) were conducted with interested farmers. Technical training sessions emphasised practical hands-on exercises, which normally ran for two to three hours. Facilitators and farmers identified the training sessions to suit farmers' diverse needs. For instance, apiculture or bee keeping was aimed at incorporating honey production for nutrition and income, while seedling production was for diversification of species of fruit and timber trees. Technical training sessions consistently increased from 1996 to 2000, with NVS the most frequent topic (Table 5.5). In FGDs and interviews, farmers expressed the need for continuous training on new farming techniques. LGU informants agreed with this and also raised the issue of capacity building for technicians on new technologies. They added that high priority should be given to acquisition of skills and building human capital in order to sustain the Landcare Program.

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<sup>10</sup> I made these observations while participating in a number of Landcare slide shows from 1999 to 2000.

**Table 5.5** Type and number of training sessions in Claveria, 1996-2002

<b>Year</b>	<b>Type of training</b>	<b>Number of sessions</b>
1996	NVS	6
1997	NVS	7
1998	Tree Management	6
	Animal Care	3
	Tree Management	11
1999	NVS	13
	Leadership	2
	Tree Management	7
2000	NVS	71
	Needs Assessment	6
	NVS	41
2001	Needs Assessment	6
2002	Bee keeping	2
	<b>Total</b>	<b>181</b>

ICRAF's training program was without a particular blueprint, and was dependent only on the past experiences of its staff. However, Stark (2000) found that many of the early trained farmers were finding the ICRAF-facilitated training more useful compared to past trainings, which did not include actual hands-on exercises and systematic follow-up. Corresponding observations made by Arcenas (2002) revealed that the training sessions went beyond the transmission of information since they were both structured and informal, allowing for camaraderie and social bonding among the participants.

Group formation usually followed a training session, a meeting, or a cross-farm visit. Six of the seven groups that participated in FGDs had followed this process. Landcare groups were formed around the establishment of communal nurseries and NVS, with members ranging from 15 to 50 farmers or households. Farmers helped in constructing nurseries and assisted each other in establishing NVS through group work or *hunglos*. However, after attending a training session or a slide show, some farmers who were only interested in NVS or had more resources (e.g., family labour and money) went on to establish NVS without group support, and without claiming landcare membership. There were three possible reasons for this. First, the simplicity of NVS did not necessarily require group work. Second, some farmers were innately uninterested with group activities. Third, since training sessions were not exclusive for landcare members and group membership was not a requirement for farmers to access the technology, some farmers may have found group membership unnecessary. In this case, the view that landcare membership was not a necessary factor for adoption could be well founded. However, it could be argued that

from the extension point of view, formation of landcare groups was still a better approach, enabling farmers to access information and support more easily and at lower cost compared with an extension approach in which ICRAF or the LGU contacted the farmers individually, or farmers had to contact the LGU or ICRAF individually.

Group formation at the sitio level was based on the idea that neighbourhood groups or family kinship provide an existing social structure, making it easier to communicate and facilitate their activities, as well as being smaller in size. According to Narayan et al. (2000) neighbourhood networks and kinship serve as the immediate social system beyond the family, and the first line of defence in times of community crises. In close communities, residents share their resources in many ways to survive and thus form a reciprocal obligation. The ICRAF Site Coordinator observed that Landcare was more easily received in relatively remote areas where social and economic activities were limited than in barangays near the *poblacion* (municipal centre), where farmers had more diverse livelihood activities. He thought that farmers in remote areas appeared to be more cohesive and receptive to new information, and group activities were a convenient way to bonding social capital.

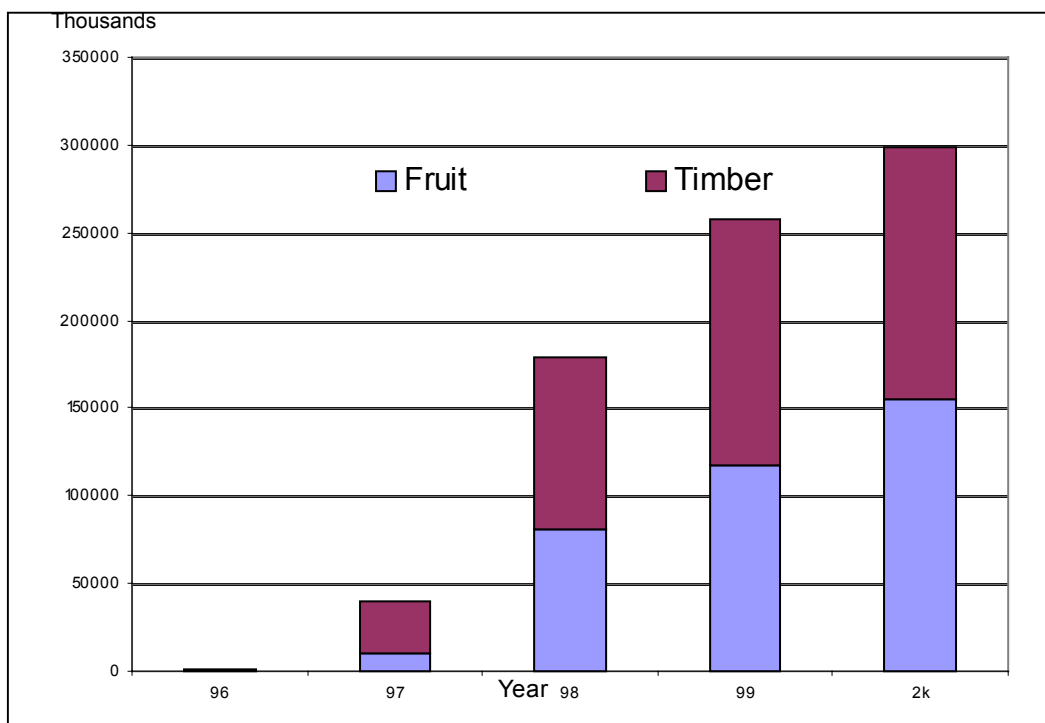
During the first year of Landcare (1996-7), facilitators, the CLCA leaders, and barangay officials focused on conducting slide shows at the barangay level, which resulted in the formation of eight landcare chapters. Rapid formation of landcare groups at the sitio level started in 1998 with 37 sub-chapters formed in 17 barangays, followed by 61 sub-chapters in 1999. Having a similar nature to Landcare, five peoples' organisations (POs) also affiliated with the CLCA, expanding the membership-base of Landcare. These POs hoped that they could be better served if they joined forces. However, there was no clear evidence that the new relationship resulted in major changes, except that they were able to access the same training that landcare groups received. By 2001, Landcare had spread to 21 barangays, and a total of 142 landcare sub-chapters were federated with the CLCA. However, there had been no systematic assessment of the status of landcare groups. Sabio (2002) categorised some groups according to the degree of collaboration of the three key actors, but did not fully describe the status of landcare groups. Farmers in the FGDs, however, thought that groups ranged from very weak to very strong.

ICRAF also reported a landcare membership of 2,286 farmers in 2002, which was 37 per cent of Claveria's farming households. However, the significance of this number was doubtful since the membership rules of most landcare groups had never been formalised. As mentioned earlier, one of the weaknesses of the CLCA was in the area of membership. Some groups had individual membership while others had household membership, which included several household members (e.g., husband, wife, and adult children helping in the farm). Automatic membership was often applied to farmers who participated in the initial activities (e.g., slide shows). It was also possible that technology adoption was considered as evidence of outright membership in a landcare group. Arcenas (2002) found that sitio residents regarded the CLCA as part of the barangay government and associated participation in sitio meetings with CLCA membership. Hence, disentangling landcare membership from sitio membership was difficult, and unless landcare groups formalise membership criteria, group membership will remain vague.

#### **5.5.2. Impact of Activities on Technology Adoption**

Farmers applied other conservation technologies such as ridge tillage and trash bunding, but NVS appeared to be the most dominant practice. As mentioned earlier in this chapter, there were 189 adopters of the contour hedgerow system (including NVS) predating Landcare, which could be attributed to IRRI's training on contour hedgerows (up to 1992) and to farmers' spontaneous adoption of NVS based on what they had observed from ICRAF's research. In 1996, 92 more farmers had adopted NVS due to the efforts of the CHET. A year after the CLCA was organised in 1996, 155 more farmers had adopted NVS, giving a total of 435 adopters of conservation technologies in 1997.

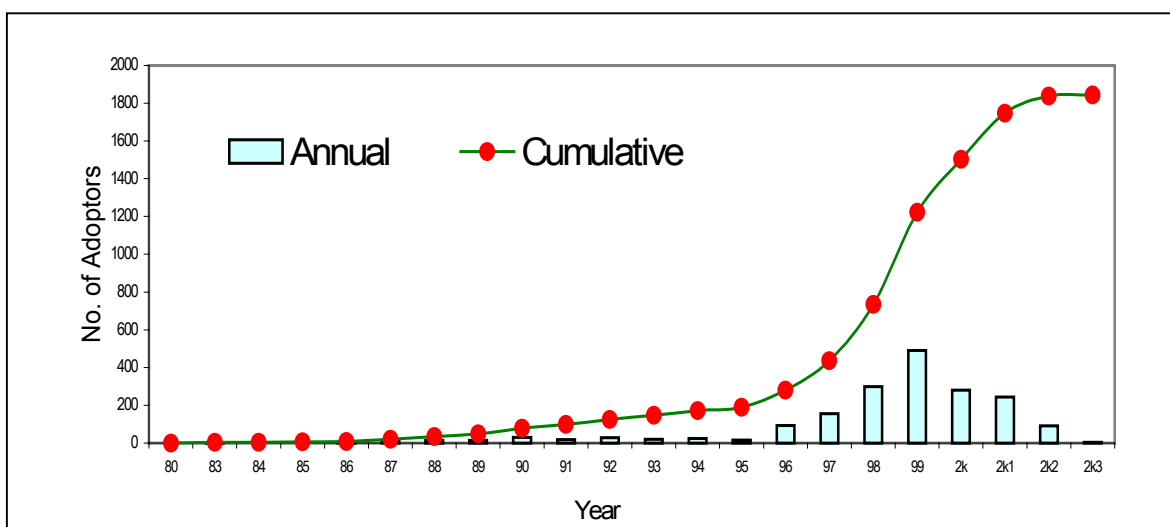
As many farmers were becoming interested in planting timber and fruit trees to obtain additional value from the NVS system, ICRAF facilitated training sessions on nursery establishment and different seedling production. Farmers expanded their repertoire of timber, fruit, and indigenous tree species, and established a total of 421 communal and household nurseries, which produced 288,707 seedlings of fruit and timber trees in four years (1996-2000) (Figure 5.5).



**Figure 5.5** Annual production of fruit and timber tree seedlings in Claveria, 1996-2000  
Source: ICRAF database, Claveria

Given that the average capacity of one hectare is about 1,000 for timber trees and about 400 for fruit trees, the total number of trees planted by farmers would have occupied an aggregate area of not less than 250 hectares. Most of these were planted either on previously installed NVS, along farm boundaries, or in small woodlots. According to Garrity (2000), this step-wise process of developing an agroforestry system was appropriate for smallholder farmers because it built their confidence as they learned and implemented the technology by themselves.

There was an increasing rate of adoption of NVS and agroforestry from 1996 to 1999 with a declining rate from 2000. Figure 5.6 shows that before Landcare (or without the Landcare Program), technology adoption was much lower, with an “up and down” pattern, which might have continued without a systematic intervention. During Landcare (or with the Landcare Program), adoption followed Rogers’ (1995) S-shaped adoption rate, with a steady increase in the first four years and decreasing subsequently. The total number of farmers adopting NVS and agroforestry practices was 1,844 by mid-2003, equivalent to 27 per cent of Claveria’s total farming households (6,233). Of these, 1,656 (90 per cent) were



**Figure 5.6** Annual and cumulative adoption of NVS and agroforestry practices (mid 2003)  
Source: ICRAF database, Claveria

adopters during the Landcare period. However, this might be the adoption ceiling of NVS in Claveria, as the annual number of adopters dramatically dropped from 91 in 2002 to five in 2003 (Figure 5.6). Nevertheless, there was evidence that some farmers had moved to more complex agroforestry systems, including livestock integration (silvopastoral system), and even tree farming, but these cases were not yet systematically documented.

The aggregate area of parcels on which conservation technologies such as NVS and agroforestry were implemented increased from 75 hectares in 1996 to 1,820 hectares in 2003, representing 11 per cent of the total cropped area in Claveria. A significant portion of this was applied with NVS (1,245 hectares).

The majority of case study participants agreed that technology adoption was the most tangible impact of the Landcare Program. Hence, the rapid increase in technology adoption in Claveria could be attributed to the Landcare Program. Landscape scale impacts have yet to be established. However, based on farmer interviews and testimonies regarding the effectiveness of the NVS system in controlling soil erosion, and ICRAF's findings on the benefits of NVS and agroforestry, the impacts of technology adoption would have been significant, given that 11 per cent of the total cropped area was treated with these technologies. Nonetheless, further investigation on this aspect is needed to demonstrate large-scale environmental and economic impacts.



### 5.5.3. Related Activities

#### *a. Landcare and the Clean and Green Program*

The Department of Interior and Local Government (DILG) has been implementing a nationwide clean and green program since 1998, recognising deserving LGUs throughout the country. The CLCA and ICRAF advocated incorporating soil and water conservation activities in the program, which was well received by the LGU. The Municipal Health Office (MHO) also agreed to participate in this multi-agency collaboration and required water-sealed toilets, compost pits, and backyard gardens for every household. Part of the program was the construction of small sitio houses with monitoring boards containing data on contoured farms, trees planted, toilets, compost pits, and backyard gardens. According to facilitators, the monitoring boards had a motivating effect and created peer pressure on farmers. Those who met the criteria became prouder and motivated, whereas those who had done nothing felt the pressure to do so. This multi-agency team monitored these activities and, as this initiative was spreading all over Claveria, some barangays started to use this as criteria for the *paligsahan* (discussed below). As a strategy, it was effective in mainstreaming Landcare in LGU mandated activities.

#### *b. Paligsahan*

*Paligsahan* was a yearly competition on conservation farming that started in Barangay Madaguing in 1999. The barangay council initiated the *paligsahan* to encourage farmers to improve food production and reduce malnutrition, which was well received by the residents. The Barangay Captain attributed the changes in attitudes of sitio members to the Landcare Program.<sup>11</sup> The *paligsahan* became popular throughout Claveria, and was made a yearly event where all actors contributed their resources. The LGU donated the prizes and ICRAF helped in the program preparation. Behind this success, however, Sabio (2002) documented cases where the underlying motive of participation and adoption of technologies was merely the prizes of the *paligsahan*. In fact, some disgruntled members destroyed their NVS and discontinued their membership after the *paligsahan*.

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<sup>11</sup> Interview with Samuel Abrogar, 26 September 2002, Madaguing, Claveria.

**c.      *Establishing Support Linkages***

The emergence of market and other technical needs prompted ICRAF to link the farmers with other service providers. In 1999, ICRAF and the CLCA President approached Philippines Nestle Incorporated (PNI) to establish a link for coffee production. This resulted in the company purchasing coffee from Claveria farmers. By 2002, facilitators organised a farmers' visit to wood processing plants to collect market information and establish market linkages for the tree species grown. The provincial and regional agriculture offices were also tapped for additional technical and material assistance.

**d.      *Landcare in Schools***

The Landcare in Schools program was initiated in 1999 through a Landcare leader who was president of the Parents-Teachers Association (PTA) in Ani-e Elementary School. The idea was to integrate soil and water conservation in the Technology and Home Economics (THE) curriculum. Under the Elementary Curriculum, THE had an agricultural component, but little was taught for lack of teaching expertise. This received overwhelming support from the PTA. In fact NVS establishment was agreed as a requirement for graduation in the parents' forum. This received criticism from ICRAF scientists who perceived it as a form of coercion, distorting the value of volunteerism in Landcare. Nonetheless, the PTA decision was pursued and the parents planted trees and established NVS. This spread to other elementary schools in Claveria, which resulted in the creation of the Junior Landcare Program. With financial support from the municipal government, the teachers were exposed to Landcare and were trained to prepare teaching materials for NVS and nursery establishment. ICRAF claimed that the efforts of the schools also contributed to technology adoption.

**e.      *Landcare Water Watch***

ICRAF recognised the need for water quality monitoring to establish landscape scale impacts of the adopted technologies. Since none of the previous studies in Claveria dealt with broader impacts of conservation technologies, it was decided to begin with simple water quality monitoring techniques to establish baseline data for future empirical research. The program received technical assistance from two Australian volunteers. The aim was to

build community capacity to undertake water quality monitoring. Teachers, students, farmers, and some local officials were involved in training and in monitoring key river systems. The capacity to monitor water quality using micro and macro-invertebrate indicators was emphasised before embarking on a longitudinal monitoring system of the health of waterways in Claveria.

***f. Farmer Research Committees (FRC)***

A farmer in Patrocenio experimented with cross breeding a native eggplant with a commercial variety in 1999. This prompted the idea to train farmers to implement small research projects. In 2001, ICRAF introduced the methods of the Farmer Research Committees (FRC) popularised in Central America and eight FRCs were organised. The FRC is a farmer driven initiative that implements on-farm research using scientific research methods. It aims to generate technologies according to the group's own interest and to develop a reservoir of technical knowledge for the farming community. This was a logical step since ICRAF researchers and technicians were unable to provide all the solutions to farmers' technical problems. According to Garrity et al. (2002), this would provide the prospect for research to be carried out through, and managed by landcare groups, and this could be a major innovation in the way on-farm participatory research is done.

***g. Farmer Training Group (FTG)***

The growing popularity of Landcare created a demand for training and cross-farm visits with various groups from outside Claveria, comprising farmers, NGOs, national and local government organisations, researchers, and practitioners. This placed increasing demands on farmers' time. Farmers were feeling the economic strain on their voluntary involvement in these activities. This was also taking much of the facilitators' time away from landcare groups. Hence, a training of trainers (TOT) was organised to form Farmer Training Groups (FTG) in 2001. The FTG provided the farmers the opportunity to earn income as training sessions were decentralised at their level. At the time of this study, the CLCA and the FTG were negotiating for assistance from the municipal government to construct a training centre. It was hoped that the training centre would ensure the sustainability of knowledge sharing, and the Landcare Program in general.

#### ***h. The Philippine Landcare Foundation Inc.***

The CLCA experience provided a basis to develop a truly autonomous institution for farmers, where support from local governments and external agencies could be channelled. It was recognised that the creation of a Landcare Foundation would interest committed individuals and funding agencies to invest in the Landcare Program. The Spanish International Cooperation Agency (AECI) provided funding to establish a Landcare Foundation to manage a trust fund to support landcare projects. However, ICRAF envisage the Landcare Foundation to take on the managerial responsibility of the Landcare Program, to allow them and other agencies to focus on backstopping the farmers' technical and developmental needs. At the time of the study, the establishment of the Philippine Landcare Foundation was underway.

### **5.6. Perspectives of Different Actors**

#### **5.6.1. Farmers' Perspectives of Landcare**

Farmers perceived the so-called "landcare technologies" (e.g., contour farming, NVS, agroforestry) as relevant to their technical needs, providing solutions to the problems of soil erosion and poor production. This confirms Rogers' (1995) view that potential users consider the adoptability of an innovation (whether technical or institutional) based on its relative advantage, compatibility, complexity, trialability, and observability. Table 5.6 summarises farmers' perceptions, expectations, and reasons for joining a landcare group. The main reason for joining a landcare group was to learn the promoted technologies, which explained why nearly all farmers perceived Landcare as "farming technologies", which could be accessed through training. This perception had a strong economic basis. However, the perceptions that Landcare is about partnerships, farmer groups, education and empowerment, and caring for the land also carried social and environmental undertones. Relatedly, the majority of farmers expected to learn the technologies and gain economic benefits in the form of increased farm income, accessibility to livelihood support, and improvement of living conditions. The last set of expectations had to do with broader community development. However, it was evident that in all these questions (reasons for joining, perceptions, and expectations), "technology" was the most dominant response, suggesting that farmers primarily associated Landcare with the promoted technologies.

**Table 5.6** Summary of farmers' perceptions, expectations, and reasons for joining a landcare group

Perceptions	Expectations	Reasons for joining a landcare group
Technology for soil & water conservation, tree farming, agroforestry	To learn new technologies for sustainable agriculture	Learn new technologies to improve soil fertility
Technology in action by people	Program will help ensure food security	Learn asexual propagation techniques and plant trees
Partnership of LC and ICRAF	To gain new knowledge from trainings & seminars	Perceived benefits are good
Farmer education, knowledge sharing, empowerment, networking	To restore soil fertility and plant trees	Former member of a cooperative and was included in the list
Group of farmer sharing knowledge	To improve income, alleviate poverty & build better future	Learn to protect and restore the environment
Caring for the land	To access livelihood, seedlings and financial support	Get animal from the cattle dispersal project
A program in line with the government	Improve farmers' skills and develop a vision	
A mechanism for responding to local and global issues	Unite the farmers and solve their problems	
A good program	Develop the community, develop tourism	
	Help implement the agricultural program of the LGU	

The Patrocenio Landcare chapter was formed in February 1997 with nine sub-chapters and 153 members. In a focus group, farmers from this chapter identified the key benefits obtained from Landcare and their impacts. These can be summarised as technical and social benefits impacting on farms, families, and the broader community (Table 5.7). Specifically, the key benefits identified by farmers were: (1) the contoured farms and planted trees; and (2) improved planning, communication, and leadership skills. These benefits were all visible in the short term. For instance, an established NVS was evident after one or two croppings, and tree seedlings were transplanted on the farm after three to four months. Farmers also observed improvements in leadership and communication skills during meetings and group activities.

In general, farmers in interviews and FGDs agreed that learning and adopting NVS and agroforestry technologies had been the most practical benefit because these had direct impacts on their farms. Except for the few recent members, the majority of farmers felt that their aim to improve production had been met primarily by adopting these technologies. The consistency of farmers' responses regarding adoption of NVS and agroforestry as a

**Table 5.7** Benefits of Landcare identified by farmers in Patrocenio, Claveria

Key benefits	Impacts on		
	Farm	Family	Community
Contoured farms	Minimised soil erosion Conserved the soil and improved fertility Minimised farm inputs Improved production	Increased income Easy method of farming Improved living condition	Clean river system Healthy environment Happy community Increased purchasing power of community
Planted trees	Increased income More products	Secured future More food Send children to university	Increased local revenue Clean and green community Fresh air and pollution free
Self- improvement in terms of planning	Improved technologies are implemented on the farm	Better farm planning Improved farming strategies	Better community involvement
Learned to associate and communicate, and improved leadership	More new knowledge and skills applied on the farm	Improved access to technical and financial support	Enhanced participation in community activities Peaceful and progressive community

practical benefit could be due to the observable effects of these technologies on farms in a relatively short period. As Rogers' (1995) pointed out, innovations or technologies that demonstrate visible results easily are more likely to be adopted.

Farmers also identified environmental, economic, human, and social benefits (Table 5.8). While the economic benefits of the adopted technologies have not yet been fully quantified, even so, farmer interviews, FGDs, and anecdotal evidence concurred that economic benefits of the adopted technologies were highly tangible. For example, an interviewed farmer in Luna was convinced that his planted trees would increase his farm income by at least 60 per cent in seven years.<sup>12</sup> Another farmer in Ani-e estimated a 25 per cent increase in his total land value after planting timber and fruit trees on his farm.<sup>13</sup> His three-hectare sloping land had been transformed into an agroforestry farm, which won him a national award for conservation farming in 1999. In addition, the majority of interviewed farmers attributed the growing environmental awareness of the residents to Landcare.

<sup>12</sup> Interview with Saturnino Gayunan, 10 October 2002, Luna, Claveria.

<sup>13</sup> Interview with Judito Joban, 12 October 2000, Ani-e, Claveria.

**Table 5.8** Benefits of Landcare identified by farmers in focus groups and interviews

<b>Environmental</b>	<b>Economic</b>	<b>Human</b>	<b>Social</b>
<ul style="list-style-type: none"> <li>• Prevented soil erosion</li> <li>• Restored soil fertility</li> <li>• Clean and healthy environment</li> </ul>	<ul style="list-style-type: none"> <li>• Planted trees, forages and acquired farm animals</li> <li>• Improved production and income</li> <li>• Received other material support (seedlings, corn sheller)</li> </ul>	<ul style="list-style-type: none"> <li>• Enhanced knowledge and skills in farm planning, technologies, training, and research</li> <li>• Enhanced self-confidence</li> <li>• Learned to associate and communicate with other people</li> <li>• Personal development and empowerment</li> </ul>	<ul style="list-style-type: none"> <li>• Developed friendship and improved social interaction</li> <li>• Established relationship with the LGU and other agencies</li> <li>• Improved negotiation skills</li> <li>• Improved community relationship</li> <li>• More united and peaceful community</li> <li>• Improved community environmental awareness</li> </ul>

Relatedly, the LGU informants observed improvements in the farmers' technical skills. They observed that farmers had become more participative, sociable, knowledgeable, skilled, confident, and self-reliant. Additionally, Landcare facilitators saw improvements in terms of group participation, presiding at meetings, socialising with visitors and public relations, knowledge and skills in technology sharing, and group leadership. The improvement of leadership and social skills among farmer-leaders had spin-offs, in that 21 landcare leaders emerged as winners in the 2002 local government elections. Four interviewed leaders acknowledged that the friendship established with farmers contributed considerably to their victory.

As mentioned earlier, the farmers' main reason for joining a landcare group was to learn the promoted technologies, but facilitators, barangay officials, friends, and family members encouraged farmers to join a landcare group. This suggests that personalities and relationships influenced farmers' decisions. For Coleman (1988) and Anderson (2000), reciprocity is an element of social capital. Relatedly, cultural value is considered a form of social capital that is rooted in a person's cultural upbringing (Arcenas 2002). Under the Filipino value system, relationships are important consideration based on *pakikisama*, where a person engages in an action to be part of a group, driven by human need for belonging (Arcenas 2002). In this context, denying a request of a family member or a person in authority is a sign of disrespect and is unacceptable. Additionally, facilitators may have also acquired social capital from earlier efforts, i.e., personal interaction and

home visits, which then influenced farmers' decision-making and participation in subsequent activities. This was based on *utang loob*, the indigenous norm of reciprocity, which still plays a big part in Philippine society. Thus social capital is embedded in the Filipino culture, and social configurations like landcare groups are well founded in the context of Filipino cultural values.

Some farmers also joined a landcare group because of the perceived effectiveness of the landcare approach and the testimonies of other farmers. An interviewed farmer also revealed that he was impressed by the support extended by barangay officials and was curious to find out what Landcare was all about, suggesting that the support of various actors generated greater public interest in Landcare.

Table 5.9 shows farmers' perceptions of the factors promoting success of Landcare, organised into personal, group and external factors. Farmers' responses on factors that enhanced individual participation were varied but the dominant factors were (1) facilitators, (2) technology, (3) unity and cooperation of members, and (4) training. The first two factors (facilitators and technology) were consistent with farmers' responses to the question, "Who encouraged you to join a landcare group and what was your reason for joining a landcare group?" This indicated the importance of facilitators and appropriate technologies in agricultural extension. Interestingly, a farmer also mentioned that the constant visit of foreign visitors encouraged him because he found them to have entertainment value. Although it sounded trivial, project visits did have an entertainment value, drawing a crowd and generating interest (Catacutan et al. 2001c). On the other hand, some problems also limited farmers' participation, such as physical problems, lack of time, conflicting schedules, tenancy, and overlapping responsibilities. At the group level, farmers identified the success factors as group cooperation and unity, effective leadership, participatory decision-making, consistent meeting and planning, and active participation of members. In sum, strong social bonds, promoted through effective leadership and organisational management, enhanced group success. These factors were common in the participation and NRM research literatures (Campbell & Sayer 2003; IIRR 2000; Narayan et al. 2000; Pretty 1998; Sayer & Campbell 2003), implying the need for emphasis on leadership building and more focused investment for capacity building.



**Table 5.9** Farmers' perspectives of personal, group, and external factors for success

<b>Personal Factors</b>	<b>Group Factors</b>	<b>External Factors</b>
Facilitators	Cooperation & unity	Government support
Technologies	Motivation	Technologies
Unity and cooperation	Effective leadership	Facilitation and monitoring
Training	Consistent meeting & planning	Financial and policy support
	Participatory decision-making	Training
	Active membership	Incentives
		Partnership with ICRAF and linkages with other agencies

Farmers also identified external factors that were important for success. The most dominant were (1) government support, (2) availability of simple technologies, (3) facilitation and monitoring, (4) training, (5) incentives, and (6) partnership and linkages with ICRAF and other agencies. In particular, farmers cited the good relationship between ICRAF and the LGU and the stable political situation in Claveria as important factors for achieving success.

Conversely, the absence of some or all of these factors was seen to impede success. However, poverty, in the form of lack of financial resources, was seen to be the major limiting factor for farmers to participate in landcare activities. Interviewed farmers disclosed that because they needed to double their efforts to earn extra income, it left them with little time for landcare activities. This was confirmed during the fieldwork, as most farmers who were considered inactive had transferred elsewhere to seek employment, or had been busy with some off- or non-farm activities. Collective action thus runs the risk of disintegration given the farmers' impoverished situation. This indicates that the apparent human and social capital residing in Landcare, though fundamentally important, may not be sufficient for the long term. Incorporating activities that lead to income improvement and asset building will be crucial for the sustainability of landcare groups, confirming Pretty & Ward's (2001) view that the progress of local groups towards maturity is likely to be related to the availability of social capital locally, but appropriate inputs from government and voluntary agencies are also important.

Farmers in FGDs and interviews voiced the need for marketing, infrastructure, and financial support to vigorously pursue their goals, along with the technical, human resources, and policy support that have already been provided. Nonetheless, for farmers, fundamental for Landcare was volunteerism, partnership, leadership, technical appropriateness, unity and cooperation, and knowledge sharing. In other words, while the kinds of support mentioned were desirable, farmers gave more value to non-tangible elements. Obviously, many of these elements were embodied in the landcare approach, suggesting that farmers had assimilated the principles of landcare, as conceptualised initially.

Finally, in the farmers' view, Landcare would continue to grow with increased membership, partners and supporters, and a more united, active and progressive membership reaching out to more farmers.

#### **5.6.2. LGU Perspectives of Landcare**

The majority of LGU informants viewed the relevance of Landcare in terms of devolution of agricultural extension. The LGU officials were appreciative of the Landcare Program because it helped the LGU to reach out to farmers. As discussed in Chapter 3, agricultural extension was entrusted to the LGUs but often given low priority. The most common reason for this was that investments in infrastructure improvement and social services were soaking up LGU funds. In Claveria, only 10 technicians were working with 6,233 farming households. An interviewed technician commended the Landcare Program, as they were few in number and poorly equipped with extension materials.<sup>14</sup> Sixty per cent of the MAO's budget was allocated for personnel salaries and 40 per cent for operational expenditures. While the technicians agreed that effective extension involved continuous education and training, resources for these activities remained scarce, leaving them dependent on the vagaries of external agencies to train farmers in new technologies. Also, the DA central office consistently required the LGUs to implement activities under its national program thrust, which did not necessarily include conservation goals. Thus, the extension offices were in tension between national and local interests.

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<sup>14</sup> Interview with Jennifer Nandog, 26 September, LGU, Claveria.

The LGU informants also said that Landcare was an appropriate approach for effective watershed management because it was people-oriented, building on volunteerism and cooperation. Nearly all informants thought that Landcare was not a difficult concept to understand because of its broad relevance to rural development, but they also found that the implementation of activities was difficult because the gestation phase of process-oriented intervention usually takes time. Nonetheless, the ABC President did not find it difficult to implement Landcare in his barangay. His direct involvement with Landcare and commitment to the CLCA no doubt influenced his view. He argued that LGU participation should go beyond supporting policies to direct participation in Landcare activities. Interviewed technicians and barangay officials supported this view. Meanwhile, three of the interviewed barangay captains were finding the implementation of Landcare more challenging. They said, “It was a challenging process but a lot easier when farmers were made aware of the benefits”.<sup>15</sup> A barangay *Kagawad* indicated that his problem was that farmers viewed government projects as dole-outs, discouraging voluntary participation. This view was very common since government officials had long practised patronage politics.

Nonetheless, despite these difficulties, the majority of interviewed LGU officials expected Landcare to continue, with conservation practices becoming a way of life, with more empowered groups, and strong government support. However, they thought that problems in further scaling up would be due to negative political intervention and changes in LGU priorities. Cultural beliefs and attitudes that resisted change were also seen to impede success. The vulnerability of poor farming households was also seen to complicate implementation. For instance, during crop or market failure, farmers changed strategies to survive. Some farmers ended up leaving or selling their farms, changing crops, or seeking more credit, keeping them away from their conservation goals. An LGU informant commented that Landcare will lose its meaning once it ceases to bring grassroots benefits.<sup>16</sup>

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<sup>15</sup> Interview with the following barangay captains: (1) Samuel Abrogar, 26 September 2002, Claveria; (2) Jose Miguel Caranzo, 9 October 2002, Lanise, Claveria; and (3) Felicisimo Mahino, 9 November 2002, Luna, Claveria.

<sup>16</sup> Interview with Crescencio Estoce, 9 September 2002, Sangguniang Bayan, Claveria.

In the LGU's view, local officials who believed in the principles of Landcare, who were not self-serving, and had a long-term vision, would make for successful implementation. They suggested that other LGUs desiring to implement a Landcare-type program should be grassroots oriented, and should be prepared to provide sustainable funding, capacity building, policy support, and time to learn process-oriented approaches. They maintained that LGUs should integrate Landcare in their local government programs.

The major benefit of the LGU from Landcare was in helping them implement their extension and environmental management programs. First, Landcare had directed the LGU's limited funding to conservation programs that would have been given low priority. As mentioned by the Vice-Mayor of Claveria, this was a better way of public spending and service delivery. Second, it helped improve the knowledge base of LGU officials and staff involved in natural resource management. Third, it helped the LGU's political agenda as government officials had become closer and more responsive to farmers' needs. Fourth, there were perceived economic benefits in that the informants thought that the LGU's tax revenue would increase with increased farm income. Also, they thought that Landcare had led the development of "eco-farm tourism", where visitors coming for training and cross-farm visits not only learned from farmers but also, through their spending, helped improve the local economy. Overall, they identified the broad impacts of Landcare in the following order: (1) improved vegetation and climatic conditions; (2) increased income; (3) improved citizen participation; (4) improved production; (5) increased technical and social skills; (6) improved confidence and self-reliance among farmers; and (7) improved environmental awareness. These suggest that the LGU informants viewed the impacts of Landcare more broadly than just helping them implement their extension program.

LGU officials thought that Landcare was successful in Claveria because it was suited to its own particular context. They identified three main conditions promoting successful implementation. First, the system of local governance (as in all Philippine LGUs) generally allowed the implementation of activities within the LGU structure, but they also felt that the stable political climate of Claveria was an important consideration. An opposition mayor followed the first mayor, who supported Landcare, but the son of the former mayor shortly replaced him; hence the political machinery was in place to support Landcare.

Second, the residents of Claveria had more exposure to training and education from MOSCAT and previous projects, which helped build up the existing stock of human and social capital, making it easier for all actors to work together. Third, the poor economic condition of farmers led to conservation efforts and collective action because they were dependent on farming for their livelihood, and were poorly resourced to access external support individually. This had been an important consideration in the design of many poverty alleviation and rural development strategies in the Philippines and elsewhere.

However, interviewed farmers saw poverty as generally limiting participation. Their ability to cope with any form of stress was limited by their impoverished situation, referring to poverty as lack of financial resources and livelihood options. While this response did not imply that farmers were unwilling to cooperate, this indicated the need for strategic investments to address the needs of poor communities in rural areas.

In this context, the LGU informants identified factors that had enhanced success, namely the LGU's political and financial support, provision of facilitation, farmers' cooperation, effective partnership with ICRAF and linkages with other agencies, and effective monitoring of activities. These concurred with the factors identified earlier by farmers (see also Table 5.9). On the other hand, the LGU informants recognised that political problems, poor partnership, and a resistant attitude towards change will hinder success. The rise of commercial agriculture and rapid economic development was also seen to challenge continued success. The Mayor of Claveria said that the LGU needed to provide livelihood options without putting stress on the environment, and without curtailing the conservation ethic that had emerged through Landcare.<sup>17</sup>

### **5.6.3. Facilitators' Perspectives of Landcare**

Facilitators found Landcare an easy concept to understand due to their educational backgrounds. However, they disclosed that facilitating Landcare would have been more difficult without LGU support. According to facilitators, despite the overwhelming support of many government officials, there were some officials who needed more persuasion,

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<sup>17</sup> Interview with Mayor Paul Douglas Calingin, 26 September 2002, Claveria.

hence the need for “people skills” to deal with different personalities. They added that the resources needed to implement a Landcare Program were technical and human rather than purely financial. Facilitators suggested that LGU funding should be directed to improving technical skills, employing effective facilitators, and providing training. Finally, the facilitators concurred that the key features of the Landcare Program were the use of appropriate technology, local government participation, policy support, network groups, and being people-centred.

Facilitators encountered several issues related to the area of assignment and facilitation skills. Each facilitator was involved with not less than 10 landcare groups, and some of these groups were located in remote areas. Accordingly, their roles had been varied, including that of a trainer, technician, coordinator, communicator, evaluator, conflict manager, and social organiser. While much of these were functions of effective facilitation, they said that the challenge was in balancing these roles to meet farmers’ expectations. They mentioned that encouraging volunteerism and enhancing participation to maintain group momentum was a challenging task, requiring more social skills to go along with their technical skills.

The majority of facilitators agreed that government support and technical appropriateness were critical factors for success, but effective facilitation and communication strategies were also important. In particular, the use of knowledge sharing mechanisms such as training, cross-farm visits, slide shows, farming guides and brochures, and farmer-to-farmer and farmer-led extension were seen as important factors for success.

Facilitators thought that the main barrier to further scaling up would be political conflict. Where the public service is politically driven, the decisions of political leaders are crucial for success, since any political conflict could lead to poor farmers losing their voice. In the facilitators’ view, a loss in farmers’ voice would result in deadlock for Landcare. Additionally, facilitators thought that changes in land use and farming systems would also affect the scaling up process, as this could easily increase household vulnerability to stresses and shocks. For example, a neighbouring tomato paste company had offered a contract-growing scheme for tomato production, and since corn had poor price support,

farmers in upper Claveria immediately opted for this scheme. This tomato production scheme displaced other crops, increased the use of farm inputs, and changed the tillage practices. This system did not last long because of excess supply in the tomato processing industry, leaving the farmers in extreme poverty. Facilitators in this area found it harder to convince the tomato farmers to adopt conservation technologies compared with farmers in the corn area, because of slow recovery from the market collapse and because of farmers' initial perception of the negative effects of NVS on tomato production.

## **5.7. Discussion**

The landcare approach was not deliberately designed as such and was rather experimental, but it reflected the current themes of rural development, characterised by participatory approaches, greater grassroots involvement, and multi-stakeholder partnerships. It epitomised a process in which different actors were held together, interacting and delivering resources and services, strengthening participation and interdependence, and promoting sustainability. According to Narayan et al. (2000), the connection of actors is required to build the social solidarity needed for social mobilisation. In many sectors, social mobilisation has been widely used to achieve societal goals.

### **5.7.1. Impacts of the Landcare Program**

The landcare approach was a working concept. As a technology dissemination process, it was in line with Biggs' (2003) "innovations systems model", where the major actors that influence the generation and diffusion of innovations were central to the process, and where learning takes place along the way.

As a program, Landcare was a "work in progress" without pre-set targets, hence success was viewed in terms of the advances it made towards meeting the goals embodied in the landcare approach, namely promotion of appropriate technologies, building institutions, and partnerships, as discussed below. According to Racine (1998), assessing program effectiveness through the advances it made is a good start to measuring success.

First, rapid adoption of technologies was well established only during the time of the CHET and Landcare, with 90 per cent (1,656 farmers) of total adopters implementing the practices

during the Landcare period. The adoption rate was unprecedented in Claveria, and although it followed an S-shaped adoption curve, farmers' activities were elaborated with more productivity-enhancing technologies (i.e., apiculture, livestock integration, etc.) and community-based and livelihood-oriented activities such as water quality monitoring and marketing of tree seedlings. Clearly, farmers' activities went beyond the adoption of initially promoted technologies, to step-wise improvement of the farming system and diversification of Landcare activities. These activities promoted the sustainability of landcare groups in particular, and of the Landcare Program, in general. This was in line with Racine's (1998) view that a program is sustained when it is not fixed to one objective, but dynamic, flexible, and innovative in responding to changing needs. These types of farm improvements however, have not yet been completely evaluated, but there was little doubt that they have been substantial, with anecdotal evidence and farmers' perceptions showing high economic significance. Moreover, given that the adopted technologies were proven effective in controlling erosion, and with more than 11 per cent of total cropped area treated with conservation technologies, the impacts of these technologies on natural resource management were likely to have been significant. The technical attributes of NVS and agroforestry helped in the adoption process, in line with Rogers' (1995) conclusion that individuals adopt an innovation only if it has a perceived relative advantage over an existing practice.

Second, while the NVS system had its own technical merits, rapid adoption was attributed primarily to the efforts of the CLCA. The untiring voluntary efforts of the CLCA leaders manifested a high degree of altruism. Their leadership qualities and influence contributed to gaining wide community support. The network of landcare groups was strengthened by the CLCA. Developing the organisational skills of the CLCA officers and landcare group leaders was as important as imparting the technical skills because it was in their organisational strength that their voices were heard in any negotiations, for example, in lobbying for policy and financial support. This confirms Valenzuela's (2001) conclusion that grassroots initiatives go beyond the idea of individual initiative for private gain, but require the capability and responsibility to improve community welfare through community solidarity. Organisational development and leadership are necessary for sustainability, however it is generally a long-term process, requiring trust, financing, and flexibility



(Narayan et al. 2000). The sustainability of landcare groups, therefore, required additional investments for capability building.

Third, the three-way partnership of key actors was unmistakable. ICRAF's role was more that of a development entrepreneur, which according to Oudenhoven & Wazir (n.d.) is needed to catalyse change. The promulgation of local policies, which institutionalised LGU support and the level of LGU involvement, were new developments in the history of public-private partnership in Claveria. More importantly, farmers shared their time and resources, despite their impoverished situation. The issue regarding the motive of the ICRAF Site Coordinator was resolved through effective dialogue and, realising that ICRAF was not threat but an ally, the LGU joined forces with ICRAF and the CLCA. As mentioned in the literature, cooperation of actors becomes effective with trust and a clear focus on concrete activities of mutual interest, which in this case was the promotion and adoption of conservation technologies. The partnership engendered participation and developed a sense of obligation among the actors involved. This fits well with the notion of social capital, which Sabio (2002) found to have been embedded in the landcare approach. The landcare approach demonstrated that building partnership was a key to overcoming the mistrust that characterised the relationship of governments and civil society in the Philippines.

In general, the most practical benefit from Landcare was improvement in the human and social capital between and among the three key actors (farmers, LGU, ICRAF), as seen in their active involvement with Landcare activities. Although these types of capital are currently insufficient, they have rightly been seen as the assets with which to build other forms of capital-- natural, financial, and physical capital.

#### **5.7.2. Enhancing and Limiting Factors for Success**

The different actors identified common factors that promoted the advances mentioned, but LGU support and facilitation were the dominant factors (Table 5.10). LGU support was in the form of funding, policies, and technical assistance, but farmers related these types of support to political support. Facilitation was primarily provided by Landcare facilitators from ICRAF and was seen by all actors as a success factor. Clearly, the demand for

**Table 5.10** Common factors for success as identified by different actors

Success Factors	Actors		
	Farmers	LGU	Facilitators
LGU Support (i.e., funding, political, human, etc.)	X	X	X
Technologies	X		X
Facilitators (facilitation)	X	X	X
Training	X		X
Farmers' cooperation	X	X	
Monitoring	X	X	
Partnership with ICRAF and linkages with other agencies	X	X	

facilitation was high in Landcare, implying changes in extension approaches. Since technicians were not previously trained in facilitation, investments for training technicians in facilitation should be high on the agenda of Landcare. An interviewed informant from Australian Landcare said that the National Landcare Program (NLP) emphasised facilitator training and coordination because facilitators were important to the success of community landcare groups.<sup>18</sup> Additionally, farmers consistently identified technologies as a personal and external factor for participation, hence an important factor for success, agreeing with the facilitators' view. For facilitators, provision of technologies was a critical factor for success.

Arcenas (2002) showed that adoption was influenced by economic factors such farm size and availability of household labour, training and interpersonal communication. More generally, he found that ICRAF, the LGU, and the farmers he interviewed attributed rapid technology adoption primarily to the efforts of the CLCA, with ICRAF and the LGU providing technical and logistical support. That is, the CLCA was credited for the phenomenal rise in farmers that had switched to conservation practices in Claveria.

In summing up, the critical success factors identified by different actors came down to the following: (1) LGU support; (2) ICRAF's support through provision of facilitation; (3) the cooperation and network of farmers; (4) provision of appropriate technologies; and (5) effective implementation strategies such as training and monitoring. A closer look at these factors led to an agreement with the findings of Stark (2000) and Arcenas (2002),

<sup>18</sup> Interview with John Muir, 28 May 2002, Queensland.

attributing the success of Landcare to the efforts of the CLCA, the effective partnership of actors, and the technical appropriateness of the NVS system. Ultimately, these factors were embodied in the landcare approach.

However, the political and social conditions of Claveria provided the context in which the landcare triangle thrived. Without these, the partnership initiative (landcare triangle) could be easily marred by unfavourable circumstances. In general, the political conditions of Claveria appeared to be stable for a Landcare-type initiative, since politicians in the last three political terms consistently supported Landcare. This was because the political leadership from 1996 to 2003 was almost exclusively in the hands of one political family. Under a patron-client political system, political families and their patronage strongly influence the direction and success of programs such as Landcare. In addition, local officials appeared to have high environmental awareness and were open to new innovations, as seen in the LGU's environmental policies and investments for environmental programs.

Hence, it could be argued that while the success of Landcare in Claveria was likely to be related to the factors discussed earlier, the stable political condition in which government officials were willing to work with farmers and other agencies, and the vibrant social environment where farmers, the LGU, and other agencies had an initial stock of human and social capital, were fundamental to the success of Landcare.

The LGU informants and farmers saw a long-term future for Landcare in Claveria. However, the threats to this were: (1) political conflict or changes in political leadership; (2) land conversion; and (3) the proliferation of agribusiness for economic development. The Mayor of Claveria said that, "local officials needed to work hard to balance both the conservation and development goals of the LGU". This dilemma was particularly common to LGUs, where local revenues were dependent on the natural resource base. According to Coxhead & Buenavista (2001), the responses of LGUs to the ongoing devolution of power and responsibility will be critical determinants of long-term trends in economic welfare and environmental stress. This issue was also related to one aspect in the actor-oriented paradigm, stressing that local circumstances are constantly affected by the broader political

economy, requiring local actors to interact and negotiate with other actors beyond the local level.

In the farmers' view, poverty in terms of lack of financial resources has limited and will continue to limit their participation, undermining collective action and the sustainability of Landcare. The issue of poverty and the incursion of agribusiness implied the need for Landcare to emphasise the livelihood aspect of conservation farming and to consciously incorporate these concerns in the Landcare agenda. Having a rather limited focus on conservation farming and natural resource management, the Landcare Program may need to reassess its strategy if sustainable livelihoods for upland farmers are to be achieved.

The LGU's view that successful implementation of Landcare rests on leaders who believed in the Landcare philosophy, were not self-serving, and with a long-term vision, however, appeared to be just an aspiration. In practice, the Philippine bureaucratic administration has been marred by problems concerning policy and program implementation, constraining positive attitudinal change within the LGU. Again the issue of politics is important, as both facilitators and LGU officials felt that the implementation of Landcare would be difficult without clear government support, even if Landcare was a simple concept with popular appeal to a large segment of the upland population.

### **5.7.3. Relevance of the Landcare Program**

Case study participants viewed the relevance of Landcare in terms of the biophysical characteristics, socio-economic conditions, and farming systems in Claveria as well as the administrative and political context of the LGU. The Philippine government devolved many responsibilities to LGUs, opening up greater political space and legitimacy for local action and empowerment, providing a broad basis for the success of Landcare in Claveria, and potentially in other parts of the Philippines. More broadly, the landcare approach was relevant to the current notion of participatory and community driven approaches to development. According to Stark (2000), the Landcare experience in Claveria was an appropriate rural development initiative with minimal outside assistance, driven by continuous interaction between key actors. The Landcare Program has, therefore

demonstrated what used to be just rhetoric in participatory and community-driven approaches.

The LGU and farmers based on their own particular needs and expectations, held different perceptions of Landcare. The LGU expected the Landcare Program to complement their agricultural extension and environmental management programs, while farmers' expectations had to do with improving farming practices for income improvement and environmental protection. Although less measurable in the short-term, economic and environmental benefits were also perceived to be important. However, both agreed that the impacts of Landcare were much broader than improving practices and helping the LGU's extension program. For ICRAF's part, the objective was to deliver the impacts of research on soil conservation and agroforestry technologies to poor farmers through effective partnerships and diffusion pathways. The finding of differences in the perceptions and expectations of the actors was consistent with the actor-oriented approach, which holds that different actors in a social system hold multiple interests and perceptions of their actual and desired role in society.

#### **5.7.4. Affordability of the Landcare Program**

The direct monetary contribution of the LGU to the Landcare Program was nearly equal to ICRAF's costs. The LGU informants admitted that Landcare was an affordable undertaking with no capital outlay. From a purely financial perspective, the LGU had the capacity to implement a Landcare Program, should it be more institutionally and technically equipped, and with the political will to take on management responsibilities. Nonetheless, additional funding may be necessary to top up the current budget of the MAO. Alternatively, the LGU could leverage its own resources to generate additional funding from external agencies. The use of both traditional and non-traditional means of resource generation could be explored. The real challenge for the LGU was to invest in training the technicians with new technologies and facilitation, improving mobility, and production of effective communication materials. At the farmer level, landcare investments could include funding for NRM-oriented livelihood projects, small research grants, and continuous training.

#### **5.7.5. Scaling Up Landcare Within Claveria**

The experience in Claveria involved the scaling up of Landcare within the municipality. The program was scaled up geographically, organisationally, functionally, and quantitatively. Starting with a few farmers trained by the CHET with a focus on NVS adoption, it grew in size and coverage (geographic) with increased participation (quantitative) of farmers and other sectors in the municipality. Associated with increase in size and coverage was the expansion of operational scope (functional) from NVS adoption to agroforestry development, organisational development and capability building, to livelihood-oriented activities, such as seedling marketing and bee keeping, and activities beyond the farm for broader community benefits. These were seen in the implementation of related activities that were not planned during the early stage of Landcare. At the same time, ICRAF's organisational-base scaled up with increased staff, facilities, and other resources. The CLCA expanded its organisational scope with corresponding increase in activities. The main pathway for this scaling up process was "integration" of activities and mainstreaming in the extension and environmental agenda of the LGU. The Landcare Program also took a form of political scaling up, with the involvement of the lowest political structure (sitio level) to the municipal level in order to generate wider support. In all these processes, the three key actors were involved, each taking their own share of responsibility. Thus, the Landcare experience in Claveria became an inspiration for scaling up to other sites. It demonstrated how the landcare approach had worked in Claveria's context, and allowed the potential users to discern the applicability of Landcare to their own conditions.

#### **5.8. Conclusion**

In conclusion, the Landcare Program flourished in a favourable environment like Claveria, where locally adapted technologies had emerged, the LGU was supportive of grassroots initiatives and had the desire to work with farmers and other agencies, and ICRAF provided longer-term facilitation and technical support. Landcare had a broad relevance, addressing issues of participation, environmental governance, and natural resource management. The main actors held multiple perspectives, but they agreed on broader impacts of the Landcare Program on the larger community. The landcare approach was effective in terms of

promoting technology adoption and building institutions and partnerships. As an approach, Landcare was cost effective with flexibility to adapt to change, dynamism to learn and explore new ways of doing things, and resilience to the adversities of program implementation. Broadly speaking, it demonstrated the potential to be scaled up to much wider areas with shared problems and conditions. The succeeding chapters examine the experiences of three scaling up sites in relation to Claveria.