



**Philippines-Australia  
Landcare Project**

# Dynamics of Landcare Groups in Lantapan

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## PREFACE

The Philippines-Australia Landcare Project Working Paper Series is intended to disseminate the results of research undertaken in the course of two successive action research projects funded by the Australian Centre for International Agricultural Research (ACIAR):

- ASEM/1998/052 *Enhancing Farmer Adoption of Simple Conservation Practices: Landcare in the Philippines and Australia* (1999-2004)
- ASEM/2002/051 *Sustaining and Growing Farmer-Led Landcare-Type Approaches to Natural Resource Management in the Philippines and Australia* (2004-2007).

For further information about these projects contact the project leader, Noel Vock, at [Noel.Vock@dpi.qld.gov.au](mailto:Noel.Vock@dpi.qld.gov.au) and about the working papers and other research outputs contact Rob Cramb ([r.cramb@uq.edu.au](mailto:r.cramb@uq.edu.au)) or Noelyn Dano ([noelyn\\_dano@yahoo.com](mailto:noelyn_dano@yahoo.com)).

This Working Paper presents results from qualitative research undertaken as part of the evaluation of the Lantapan Landcare Program. The paper is to be presented at the International Landcare Conference, Melbourne, 9-11 October 2006.

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## **ABSTRACT**

Landcare commenced in Lantapan Municipality in the southern Philippines in 1998. Within two years there were 62 groups linked in a municipal association. These groups successfully shared conservation practices and worked together in establishing contoured farms and agroforestry nurseries. However, many groups became inactive once the initial adoption of conservation farming had occurred. A participatory evaluation undertaken five years after the commencement of Landcare included case studies of 12 groups, ranging from those that were continuing to develop to those that had disbanded. Groups in the former category tended to be in stable, cohesive communities, had an effective local leader, and were highly focused on own-account farming. They were also in regular contact with Landcare facilitators and continued to benefit from the wider Landcare Program. Disbanded groups were often hampered by poor leadership, factionalism, lack of follow-up, and a loss of interest once conservation practices had been implemented. Members of some disbanded groups were affected by dependence on banana plantations or vegetable traders, or lacked secure tenure. Both continuing and disbanded groups expressed a need for on-going links with the Landcare Program. The lessons are that Landcare activities need to be adapted to changing livelihood strategies and that continued investment in bridging social capital is key to sustaining Landcare in the Philippines context.



## 1. Introduction

Landcare commenced in Lantapan Municipality in the southern Philippines in 1998, fostered by the activities of the International Centre for Research on Agroforestry (ICRAF) (now called the World Agroforestry Centre) with support from a project funded by the Australian Centre for International Agricultural Research (ACIAR) . Within two years there were 62 community Landcare groups linked in an active municipal Landcare Association. These groups successfully shared conservation practices and worked together in establishing contoured farms and agroforestry nurseries. However, many groups became inactive once the initial adoption of conservation farming had occurred or when other factors intervened. A participatory evaluation undertaken five years after the commencement of Landcare included case studies of 12 groups, ranging from those that were continuing to develop to those that had disbanded. In this paper we reflect on the significance of the rise and decline of Landcare groups for the sustainability of Landcare in Lantapan, drawing on the concept of social capital.

## 2. Social Capital and Collective Action

Social capital can be broadly defined as “the information, trust and norms of reciprocity inhering in one’s social networks” (Woolcock 1998, p. 153), or “the norms and networks that enable people to act collectively” (Woolcock and Narayan 2000, p. 226). Similarly, Krishna defines it as “the quality of human relations within some well-defined social group that enables members of this group to act in cooperation with one another for achieving mutual benefits” (2004, p. 292). The concept was invented (or reinvented) by various writers from the 1950s onwards, but received its greatest impetus from the seminal work of Coleman (1988) on education and Putnam (1996) on civic participation and governance.

As these definitions imply, social capital and collective action are distinct but related phenomena. Social capital refers to structures that *facilitate* collective action; the former can be thought of as a “stock variable” whereas the latter is one of the “flow variables” associated with it (Meinzen-Dick et al. 2004). There is a recursive relationship between the two in that successful experience of collective action enhances the stock of social capital that helped to facilitate it (Woolcock 1998; Bowles and Gintis 2002; Meinzen-Dick et al. 2004). Pretty and Ward (2001) and Pretty (2003) have documented the beneficial impacts of social capital on rural development and resource management as evidenced by group activity (i.e., collective action) in a wide range of areas, including watershed management, irrigation, micro-finance, forest management, integrated pest management, and farmer experimentation.

As Coleman (1988) has pointed out, social capital is not a single entity. Woolcock (1998) distinguishes different forms of social capital at both the micro and macro levels, and examines the changing combinations between them in the context of economic development. At the micro level (the level of individuals, households, small groups, and communities) he distinguishes two types. “Integration” or “bonding social capital” refers to the intra-community ties

that enable poor people in a village setting to “get by” (e.g., monitoring of property rights, labour exchange, emergency assistance, rotating savings groups, provision of communal facilities). “Linkage” or “bridging social capital” refers to the extra-community networks that enable individuals and groups to tap outside sources of information, support, and resources, not just enabling them to “get by” but to “get ahead” (e.g., links to traders and financiers, extension agents, NGOs). Table 1 illustrates how different combinations of these dimensions of social capital can account for a range of development outcomes in the Indian context.

**Table 1** Dimensions of social capital at the community level

Extra-community networks (bridging)	Intra-community ties (bonding)	
	Low	High
Low	Outcasts	Poor villagers
High	Recent rural-to-urban migrants	Successful members of micro-finance programs

Source: Woolcock and Narayan (2000, p. 231)

Focusing on only one kind of social capital, and assuming that more is always better, can be seriously misleading (Woolcock 1998; Woolcock and Narayan 2000; Rodriguez and Pascual 2004). In particular, a community with a high level of bonding social capital, while it may provide essential support to its members, may also be holding them back in other ways (e.g., by restricting opportunities for innovation, education, or engagement with markets) or imposing costs on other groups (e.g., those excluded from membership on ethnic or religious grounds, or those on the receiving end of an environmental externality). For development to proceed, Woolcock and Narayan (2000) suggest there is a need, not only to mobilise bonding social capital, but also to develop new linkages, or bridging social capital, opening up new opportunities for individuals and communities. This has been the basis of successful group-based credit programs, linking small, close-knit groups to outside sources of finance (Table 1). The dilemma is that the formation of this latter type of social capital may well undermine the former type over time, as success increases demands on existing social bonds and as individuals within the community pursue a greater diversity of linkages and activities.

Woolcock and Narayan (2000) conclude that the challenge for research and policy is “to identify the conditions under which the many positive aspects of bonding social capital in poor communities can be harnessed and its integrity retained (and, if necessary, its negative aspects dissipated), while simultaneously helping the poor gain access to formal institutions and a more diverse stock of bridging social capital” (p. 233). They note, however, that the process “is fraught with multiple dilemmas, ... especially for external nongovernmental organisations, extension services, and development agencies, because it may entail altering social systems that are the product of longstanding cultural traditions or of powerful vested interests” (p. 233). Thus



these and other writers do not see the formation and evolution of a community's social capital as entirely a "grassroots" or "bottom-up" phenomenon but recognise a crucial, if difficult, role for the state and/or other outside actors in facilitating positive social change at the community level.

The Landcare approach that emerged in the mid-1980s in Australia (Campbell 1994; Lockie and Vanclay 1997; Cary and Webb 2000) and, quite separately, in the mid-1990s in the Philippines (Cramb et al. 2000; Mercado et al. 2001; Arcenas 2002; Sabio 2002; Catacutan 2005) is a well-recognised strategy for developing collective action at the local level to deal with problems of agricultural land degradation. The approach centres on the formation of community Landcare groups, supported to varying degrees through partnerships with government and non-government agencies. Such groups identify problems at the local level and mobilise information, community effort, and finances to help improve the management of their soil, water, vegetation, and other natural resources. They can thus be viewed as a means of investing in both bonding and bridging social capital. The remainder of this paper examines the dynamics of social capital formation and the relative importance of these two forms of social capital in the Landcare Program facilitated by ICRAF in Lantapan.

### **3. The Context**

The Municipality of Lantapan occupies 33,000 ha between the upper reaches of the Manupali River and the Mt Kitanglad Range (Fig. 1). The landscape rises from river flats at 400-600 m in the south of the municipality to mountainous terrain at 1,100-2,200 m in the north. Soils are generally clayey, moderately acid, of low fertility, and susceptible to erosion. Rainfall averages 2,500 mm, 70 per cent falling in the wet season from May to October (Coxhead and Buenavista 2001; Cramb et al. 2003).

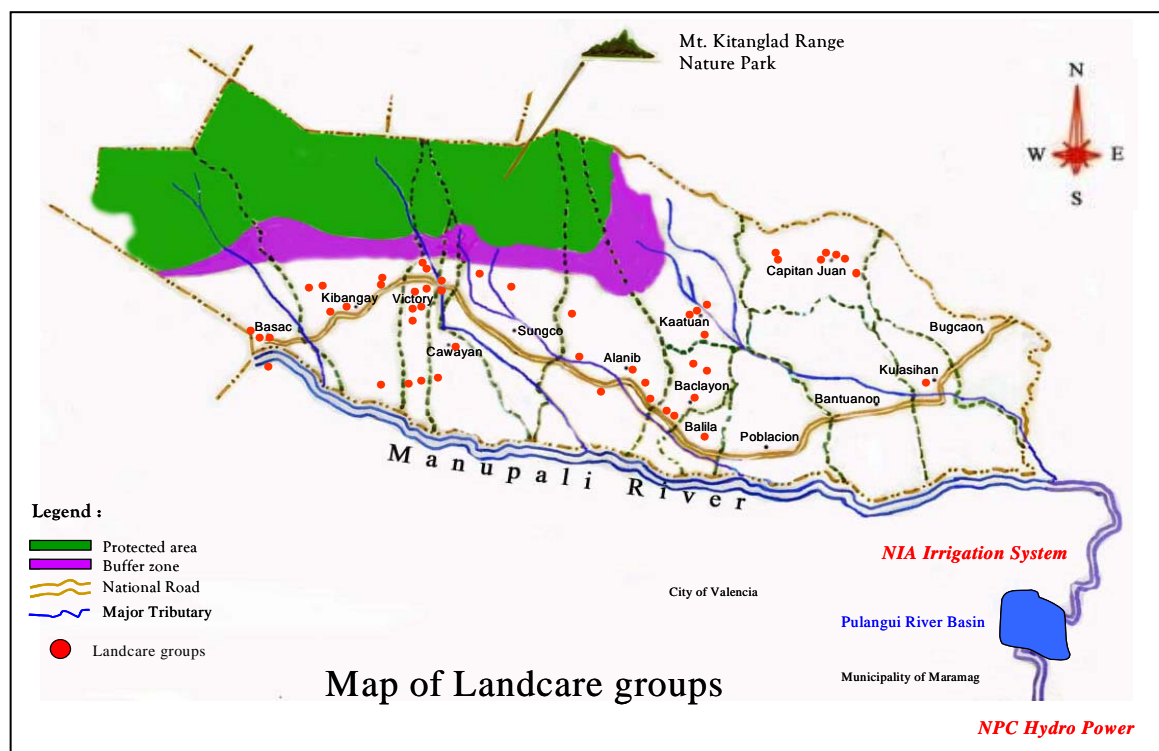
Lantapan has experienced major demographic, agroecological, economic, and institutional changes over the past half century. In that time, the indigenous Talaandig have become a minority as immigrants from the Visayas and Luzon have taken up land and introduced more intensive farming practices. The population increased from under 1,000 in 1948 to over 43,000 in 2000, resulting in a population density of 136 persons per sq. km and a modal farm size of 1-3 ha (Coxhead and Buenavista 2001; Cramb et al. 2003).

Hence shifting cultivation of rice and other crops for subsistence has given way to continuous cultivation of maize for both subsistence and sale, and the production of an array of vegetable crops such as beans, tomatoes, cabbages, and potatoes, destined exclusively for urban markets to the north. More recently, the spread of sugarcane cultivation and the establishment of three large banana plantations have further transformed the landscape in the more productive and favourably situated parts of the municipality (Coxhead and Buenavista 2001; Cramb et al. 2003).

The net effect of changes in land use is that forested land has declined while annual cropping has expanded, as the agricultural frontier has been pushed

higher in the landscape. This has resulted in a loss of forest biodiversity as well as the rapid degradation of soil and water resources.

Though the agricultural and environmental sectors have been under-resourced, outside agencies have sought to have an impact on farming in Lantapan, both to reduce poverty and protect critical natural resources. In particular, a consortium of researchers within the USAID-funded Sustainable Agriculture and Natural Resource Management (SANREM) Program, including ICRAF researchers based in Lantapan, helped pave the way for a community-based approach in partnership with local government (Coxhead and Buenavista 2001). Hence, even before the Landcare Program was launched, there had been some progress in forming farmer groups, providing training in soil conservation and agroforestry, and developing local government plans for natural resource management.



**Fig. 1** Lantapan Municipality showing location of Landcare groups

#### 4. The Landcare Program

The Landcare Program in Lantapan built on ICRAF's earlier experience in Claveria to the north (Mercado et al. 2001; Arcenas 2002; Sabio 2002; Catacutan 2005) and the prior interventions of an array of organisations under the SANREM Program. The ICRAF Landcare team comprised two experienced facilitators and four "intern" facilitators. The program began with a broad information campaign on environmental issues and conservation technologies, especially natural vegetative strips (NVS), a low-cost contour-farming technology developed in Claveria. This campaign was implemented in all 14

*barangay* (local government units) of the municipality. A survey was then conducted to determine the level of farmers' interest. As a result, seven *barangay* in the upper part of the municipality were given priority. Major activities in these *barangay* included slide shows, cross-farm visits, and training, often repeated at the level of the local community (*sitio*). The training involved half-day or whole-day sessions that usually began with hands-on training in establishing NVS or with training in nursery management. This training was supported by visits to farms where the practices had been adopted. The first Landcare group was formed six months after the information campaign, in May 1999.

The recorded rate of adoption of conservation farming during the implementation of the Landcare Program was impressive. Combining adopters of the two main conservation measures – contour barriers and agroforestry – there were about 862 adopters by the end of 2002, or 16 per cent of the total number of farm households in Lantapan (though not all households were potential adopters), of whom 712 had adopted during the Landcare Program. The total area under conservation measures was about 1,229 ha (43 per cent under NVS and 57 per cent under agroforestry). This was 11 per cent of cropped land, 14 per cent of land under maize and vegetables, and 23 per cent of “environmentally critical” land, suggesting a significant impact at the landscape level. However, these figures do not account for any “dis-adoption” (failure to maintain NVS or planted tree seedlings), the rate of which has not been measured.

There was also rapid formation of Landcare groups, usually at the *sitio* level, and a Landcare Association, soon growing to 62 local groups with 840 registered members (though in practice membership was quite informal). These groups were an important source of information on conservation practices for their local community and encouraged members and others to work together, especially in the establishment and maintenance of communal Landcare nurseries. However, many groups became inactive once the initial adoption of NVS and/or tree planting had occurred, and especially in those locations where plantation development and other agribusiness ventures had led to the demise of smallholder farming. The too-rapid expansion of the Program may also have been a factor in the decline of group activity, limiting facilitators' capacity to follow up existing groups. By mid-2003 the number of active groups had dropped to 12 (20 per cent), while 45 groups (73 per cent) were reported to have disbanded (though individual members may still have participated in Landcare activities and some groups had the potential to reform around new activities). Nevertheless, the Landcare Association remained reasonably active and had the potential to take on more aspects of the Landcare Program, especially the provision of training to outside groups.

## **5. Case Studies**

The experience of Landcare groups in Lantapan was very diverse, reflecting the diverse contexts, resources, and strategies of farm households and local communities. At the time of the evaluation study in 2003, some groups were continuing to function and grow, in some cases Landcare activities had been

taken on by an existing group or without any organised group structure at all, but many groups had completely disbanded. Twelve case studies were undertaken – four in each of these three categories. The case studies were based on secondary data (especially *barangay* and *sitio* profiles), focus group discussions with farmers and Landcare members, and key informant interviews with Landcare, *sitio* and tribal leaders. For reasons of space only one case study from each category is reported below. However, the discussion that follows draws on all 12 cases.

### 5.1 A Continuing Landcare Group

Mapawa is a *sitio* of Barangay Sungco located on the fringes of the Mt Kitanglad buffer zone about 3 km from the *barangay* centre. It has an average elevation of 1,300 masl and steep slopes that are susceptible to erosion when cleared for cultivation. The land use is a mixture of small plots cultivated with maize, root crops, and vegetables; coffee plantations; forest plantations; open grasslands; and forest regrowth. The *sitio* comprises 72 households, dispersed in three settlements. Farming is the main source of income, while a few women engage in small-scale vegetable trading in the *barangay* and in neighbouring towns. Sometimes farmers barter their produce to buy rice or maize. Many farmers do not own draught animals and cultivate the land with hand tools, making farming very difficult and time consuming.

A crucial issue has been the expansion of agricultural cultivation into the margins of the remaining forest, posing a threat to the natural ecosystem. Several government projects had been initiated to control these pressures. Farmers had been included in the Integrated Social Forestry Program and projects of the Protected Area Management Board, and as forest guards. Almost all the farmers in Mapawa had worked as contract labourers in a 1980s reforestation project that took in the entire *sitio*. In turn, most farmers received training in conservation farming, forest management, and non-destructive livelihood projects. Many were taken on field trips to other provinces to observe good farming practices. The SANREM program had also included farmers from Mapawa as co-operators in some of its research activities.

Two organisations have been in existence since the early 1990s, namely the Mapawa Integrated Social Forestry Association (MAISFA) and the Mapawa Tribal Cooperative (MATRICO). Despite its inaccessibility and remoteness, the *sitio* structure and leadership remain strong. Community leaders regularly attend meetings in the *barangay* centre. A dedicated and charismatic *sitio* leader also headed the Landcare group and willingly spared time to help other farmers.

During a regular *barangay* assembly in 1999, ICRAF staff presented a slide show on conservation farming. The following month, the *sitio* president and the chair of the agriculture committee organised a *sitio*-level meeting to discuss Landcare. The farmers readily accepted the idea since most were already exposed to conservation technologies from previous projects. In May 1999 farmers organised their Landcare group with 35 members. Most of the officers were also *sitio* leaders.

The farmers prioritised their training needs, including asexual propagation and soil analysis. An old nursery was revived and a new nursery was constructed close to the buffer zone. Fifty-nine farmers adopted soil conservation technologies, including NVS and agroforestry, and 18,500 trees were planted in the buffer zone and on individual farms. Following the initial training, NVS adoption in Mapawa was largely a result of spontaneous farmer-to-farmer sharing.

At the time of the study the members of the group remained active in Landcare activities and firm in their commitment to protect the integrity of the protected area. There were 46 Landcare members, some of whom, particularly the president, continued to share technologies with other farmers in the neighbouring *sitio*. Within the group, strong leadership by *sitio* officials, who were at the same time Landcare officers, was seen as the key to the group's resiliency. Cooperation and teamwork were also recognised by farmers as important factors to group success. The *sitio* was very isolated and group cohesion was positively influenced by the lack of basic social services or other economic activities. Farmers had long been exposed to previous projects with conservation objectives, so it was not difficult to facilitate Landcare activities, though the organised information and education program was helpful. Farmers also felt that consistent and effective facilitation was crucial in maintaining positive relationships.

Nonetheless, farmers were often constrained by their individual farming activities and their occasional employment outside the *sitio* to augment their farm income. When asked what support was needed for Landcare to flourish in the *sitio*, they identified infrastructure support, such as improved farm-to-market roads and water systems; finance; working animals; better market linkages; and continuous training and education.

Farmers believed that participating in Landcare provided them with technologies appropriate to their farming conditions. They pointed to the trees they had planted as their major gains from joining Landcare. Adopting NVS also allowed them to diversify their farming systems. Some farmers said they now had more kinds of plants on their farm than before and, although it was difficult to measure their economic value, they felt sure that this variety of crops provided them with more food and income. One farmer loudly expressed his view that what he learned from joining Landcare was far more than he had received from past projects with livelihood components. Further, he said that although financial support was important, it was not the only solution to their problems. Both money and the knowledge to use it wisely were important for lasting outcomes.

The group was developing its Community Resource Management Plan, as well as continuing to reach out to interested farmers within and outside the *sitio*. The president expressed his willingness to help other farmers establish NVS. He had become a farmer-trainer for another project within the Mapawa catchment. When asked whether they would continue with their activities without external support, they proclaimed, "Yes, we would do so, we are doing

it now.” They added, however, that they would be gratified to receive any form of assistance from government and other external groups.

## 5.2 Landcare Adopted by an Existing Group

Barangay Kaatuan is an interior *barangay* located 3 km from the main road and adjoining the buffer zone. It has a land area of 3,976 ha, including both public and private lands. The average elevation is 2,150 masl. The topography ranges from moderately rolling to hilly and mountainous terrain. Kaatuan is divided into seven *sitio* with 272 households. Seventy per cent of the population is Talaandig and 30 per cent migrants. Farming, wage labour, and trading are the major sources of livelihood. Labour exchange (*hunglos*) is practised, especially during land preparation and planting. Maize is the predominant crop, but sugarcane is also becoming important, particularly on flatter areas, while coffee (90 ha) and vegetables are grown on sloping land.

The *barangay* has several peoples’ organisations, namely, the Kitanglad Guard Volunteers (KGV), a fire brigade, the Civilian Volunteers, the Disaster Coordinating Council, women’s and youth groups, and cooperatives. The Palamboon Farmers’ Association (PAFA) was established in 1998 by a clan whose members all belong to one religious denomination (“Iglesia ni Cristo”). PAFA was organised to strengthen family relations and to support every member of the family. Starting with a small stock of financial capital, the group put up a small store and shared labour for planting abaca and other crops. Later the group was able to access some project grants from government. The association’s president, who also led their church activities, decided to register the group as an association with the Department of Labor and Employment (DOLE), thus PAFA was recognised as a legitimate people’s organization.

In 2000, some members of PAFA, including the president, attended a *barangay* assembly where, as elsewhere, a Landcare facilitator gave a slide presentation. The president and others approached the facilitator and requested an exclusive slide show for PAFA members. Although some members were reluctant, most were keen to learn about conservation technologies. Subsequently, the group held training sessions on NVS establishment, soil analysis, and propagation of other tree species for the expansion of their old nursery. Its officers also attended a leadership training course organised by ICRAF for Landcare leaders. Members were also very motivated by what they saw from other farmers during cross-farm visits. As a result, 13 member-families adopted NVS and 13,900 seedlings were produced in the nursery in a matter of 3 months. The nursery was then expanded to cater for the members’ needs and for commercial purposes. The group also received a project grant from the Landcare Trust Fund for raising goats.

The group decided to integrate Landcare activities into their program since members believed that the technologies were simple and relevant. Landcare and PAFA shared common goals and members believed that including Landcare activities would not harm their objectives but in fact complement them by helping meet their technical needs. No changes were made from the pre-existing structure of PAFA but the integration saw an expanded range of

activities. The group also considered the Landcare facilitators as providers of technical knowledge for group members.

Members observed that group cohesion had improved with the addition of Landcare activities. These activities had diversified the group's program and encouraged more interactions among members, as well as expanding the range of outside linkages. Farmers felt it was too early to measure the benefits they had gained from Landcare. However, they readily pointed out positive changes, including more contoured farms, more tree species in the nursery, the goat dispersal project, new linkages, the training events attended which built friendship with fellow farmers in Lantapan, and the sense of belonging to a larger cause. All of these were expected to provide economic, social, and environmental benefits.

### **5.3 Disbanded Landcare Groups**

Kibangay is the largest and most populous *barangay* in Lantapan. It has a land area of 5,090 ha and a population of just over 6,000 people. It is located in the upper portion of the watershed at an altitude of around 1,200 masl, with a climate suited to growing high-valued temperate crops. About a third of the land is rolling country that stretches southward to the Manupali River, while the remainder is rolling to mountainous land stretching northwest to the Kitanglad Range. Over three quarters of the territory is public forest land and the rest is privately owned. However, only 272 ha were used for agriculture, mainly small, intensively managed vegetable farms, while 863 ha were left idle. About 30 per cent of the cultivated area is on rolling to steeply sloping land. On these slopes, farmers grow high-valued vegetables such as potato, cabbage, carrots, beans and cauliflower for commercial purposes, while maize is grown for household consumption. Indigenous tribes account for 80 per cent of the population while 20 per cent are migrants. Eighty per cent of the households are engaged primarily in farming, while 15 per cent depend on labouring and 5 per cent on small business. Over 90 per cent of the farmers are landowners and the remainder are tenants.

A *barangay* official commented that the level of participation in community affairs had been high. Residents regularly attended the monthly public assembly. Being part of the former Muleta-Manupali Reforestation Project, many farmers were contracted to plant trees and in various ways exposed to conservation technologies. Several other organisations had projects ranging from cooperative development, biodiversity protection and conservation, and sustainable agriculture. Farmer cooperatives and women's organisations had also been established, though they rarely lasted for more than a few years. At the time of the study, the Adventist Development Relief Agency (ADRA) had two major sites in Kibangay for an area-development project. Protected Area Management activities were also keeping some farmers busy with forest patrolling and livelihood projects. However, informants revealed that farmer groups had rarely survived in Kibangay, especially if they did not readily provide economic benefits.

When ICRAF staff conducted the 1999 survey to determine the level of farmers' interest in conservation technologies, farmers in Kibangay responded positively and so were given priority in the Landcare Program. *Barangay* officials were supportive of Landcare but did not allocate financial resources due to previous commitments. Five *sitio* formed Landcare groups after a series of meetings, training sessions, slide shows and cross-site visits, and 64 farmers were registered as members. Nurseries were established and members planted out 11,775 trees on their farms. Ninety-one farmers also adopted NVS, though this was a small proportion (about 13 per cent) of the total number of farmers.

Three Landcare groups soon disintegrated after receiving their share of seedlings from the nursery, while Kimanga and Calamba Landcare groups, which were 2-4 km from the *barangay* centre, remained active after the first year. These groups were receiving material support from ADRA.

At the beginning, farmers were influenced by the attractive and elaborate slide shows, the attitude of the Landcare facilitators, the NVS technology, perceived future benefits, and their own personal interest in something that was new and useful. Nonetheless, it was observed that the early participants of Landcare were mostly family members, friends or supporters of the two women officials who were actively supporting group formation. Members of the people's organisation supported by ADRA said that their participation in Landcare was directed by the project management.

Lack of capital and the need to pursue alternative sources of livelihood were the major issues faced by farmers. Income from their small farms was insufficient for family needs, so farmers had to find other economic activities. In Kimanga, for example, 80 per cent of the farmers left the *sitio* in search of better income opportunities, especially during the drier months.

During interviews, farmers pointed out that the farming system, including the credit and marketing arrangements, was the major constraint to the development of Landcare in Kibangay. Farmers planted high-value vegetables in small areas (0.1-0.2 ha), since high levels of inputs were used and maintaining the farm was labour-intensive. Day-to-day activities in vegetable farming left farmers with limited time for extra activities. Farmers depended on credit for vegetable production from financiers and traders. Financiers provided fertilisers, pesticides and seeds, which were usually marked up by 15-20 per cent from the market price. Transportation services were also provided during harvesting and delivery. Farmers could easily obtain advances of cash or food from financiers during the growing season. In return, farmers sold their produce to the financiers at a price determined in the market in Cagayan de Oro. The high cost of credit, low farm-gate prices, and lack of post-harvest facilities resulted in low profits for farmers.

They were also obliged to plant the crops dictated by financiers in order to maintain their access to credit. This credit relationship had discouraged the adoption of conservation technologies, since the financiers demanded quick returns on their investment and provided money only for the production of the



crop of interest. In addition, farmers also found off-farm employment with a few prominent farmers who cultivated large tracts of land. The same farmers controlled the local economy since they had retail and transport businesses in Kibangay.

Farmers felt that support for the Landcare groups from the *barangay* and municipal governments had been insufficient. Ineffective leadership and poor cooperation among members exacerbated the situation. They also pointed to their poverty as a cause of their lack of involvement, though a non-Landcare member argued that it was as much an attitude problem as an economic one. He said it would take a long time to change farmers' perspective on conservation – although it could be claimed that environmental protection was part of their culture, that same culture was seen to limit their ability to escape from poverty. With farmers tied to the present financing and marketing system, it was felt unlikely that conservation groups would be successful in their efforts.

## **6. Discussion**

The case studies indicate that the formation of *sitio*-level Landcare groups was not difficult. In most cases, existing *sitio* and *barangay* structures were adequate to arrange the initial information session, cross-farm visits, and training sessions, and the subsequent formation of a group. Often the *sitio* leader or the chair of the agriculture committee would head up the group. In some cases an existing tribal or women's group took on Landcare functions. In most cases, taking on Landcare activities was seen to add something of benefit to the local community or organisation and was not merely a formality (i.e., changing hats to satisfy different outsiders). Landcare was thought to be more beneficial and enduring than previous community-based efforts in the municipality, of which there had been many.

The primary interest was no doubt in gaining access to useful technology through the information, training, and support provided to Landcare members by ICRAF (though non-members were not, in fact, excluded from such benefits). In addition, Landcare linked fairly isolated farming communities to a wider network of like-minded farmers and professionals within and beyond the municipality. Hence, even where there was already close social interaction within the local community, there was an incentive to link with Landcare to achieve this wider contact. There was also often a feeling of enhanced pride and purpose in being part of Landcare, helping to confirm a traditional sense of stewardship and energise new efforts towards improving the farming system.

Those groups that had continued their Landcare activities tended to be in stable, cohesive communities and were led by a well-respected and dedicated local leader. They were highly focused on farming on their own land, with few off-farm activities; hence members had more time and incentive to be involved. They were also in regular contact with Landcare facilitators and continued to receive benefits from the Program. The same applied to those pre-existing groups that took on a Landcare focus.

Disbanded groups were often hampered by poor leadership, lack of follow-up, and a loss of interest or rationale once initial training and implementation of NVS was completed. One or two were perhaps less convinced to begin with, forming their group more to please outsiders (e.g., the ADRA project) than because of a genuine felt need. Political factionalism was an issue at the *barangay* level as well as the municipal level, hence loss of official support sometimes hampered the development of the Landcare group.

Clearly, many disbanded groups had been affected by the major and rapid change from smallholder farming to dependence on the banana plantations or the commercial poultry industry. Having leased or sold their land and taken up wage employment, there was no need or opportunity for them to continue in the Landcare Program. Others were too dependent on vegetable traders and financiers or lacked secure tenure; hence they felt locked in to their current farming practices.

Both continuing and disbanded groups felt that for Landcare groups to survive at the local level there was a need for on-going support from the Landcare Program, which in their experience primarily meant support from ICRAF through research, extension, and training. Even without an organised group, they hoped to continue to be informed and educated about new opportunities to improve their farming. They also looked to the municipal government for stronger and more consistent support. Hence, while the Landcare Association was important, farmers looked beyond the Association to ICRAF and local government for linkages and support.

## **7. Conclusion**

These findings can be readily interpreted in terms of social capital theory. First, it is clear that the formation of Landcare groups was a reflection or indicator of the initial stock of bonding social capital in these local communities, rather than an investment in this form of social capital where there was none before (as much of the “community-organising” emphasis of NGO projects seems to assume). Hence the ease of forming Landcare groups, especially where there were already high levels of trust, cooperation, participation, and good leadership. This was especially so among the indigenous communities with their traditional leadership structures and social customs, but also applied for example in the case of PAFA with its strong church base. The Landcare activities (group training, implementing conservation practices, establishing community nurseries) helped to reinforce this initial stock, illustrating the general principle that, unlike physical capital, social capital appreciates with use and depreciates with non-use. However, it is unlikely that these activities could have been implemented successfully if bonding social capital was low or non-existent to begin with.

Landcare groups were less likely to continue where the initial stock of bonding social capital was not as high, as evidenced by lack of trust in leaders, political or clan factionalism, and low levels of participation. In addition, Landcare groups were less sustainable where individuals in the community had acquired higher levels of bridging social capital, for example through close links with

traders and financiers who formed part of a supply chain connecting farmers to the major urban markets for vegetable crops, or institutional arrangements with the banana plantations involving long-term leasing of land and hiring of labour. These emerging linkages clearly helped undermine bonding social capital, whether pre-existing or augmented by Landcare.

Thus Landcare groups were more easily formed and sustained where bonding social capital was high but bridging social capital was initially low. In particular, the networks linking remote local communities in the upper watershed to other communities, local government, and outside agencies were not initially well developed. The Landcare Program built successfully on existing bonds by organising group training, the formation of Landcare groups, and the establishment of group nurseries at the *sitio* level. Crucially, the Program also helped create new linkages by organising cross-site visits, supporting the formation and activities of the Lantapan Landcare Association, acting as an advocate with municipal and higher levels of government, and continuing to facilitate the movement of people, technologies, and resources. It was these linkages that were most valued by Landcare members, whether or not their local group continued to function.

That most of the local Landcare groups subsequently became inactive may not necessarily signify the loss of social capital; many of the communities that had formed these groups continued to be well integrated and capable of collective action when required (except where large-scale agribusiness ventures had drastically altered the social and economic landscape). The benefits of the Landcare Program depended more on the maintenance of the social capital linking the members of these communities to other actors (other communities, farm leaders, entrepreneurs, researchers, facilitators, political actors) within and beyond Lantapan. Hence on-going support for the Lantapan Landcare Association is likely to be a strategic investment.

Nevertheless, the bridging capital embodied in the Association is likely to be less effective if the bonding social capital expressed in the local Landcare groups is allowed to depreciate further through lack of use. As shown by Scherr et al. (2001), primary organisations such as *sitio*-level Landcare groups are best at implementing resource management practices, whereas secondary organisations such as the municipal Landcare Association are better suited to mobilising resources and networking. Hence it can be argued that both forms of social capital require on-going expenditure on “repairs and maintenance” if they are not to be depleted. The principal lesson is that, even though Landcare is rightly seen as a farmer-led, “grassroots” phenomenon, continued investment in both bridging and bonding social capital by a Landcare agency such as ICRAF (or a new agency established for this purpose) is key to sustaining Landcare activities in the Philippines context.

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