The Landcare Approach:
Enhancing Community Participation in Sustainable Agriculture and Natural Resource Management in the Uplands[1]

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Introduction

Three factors are increasingly fundamental to successful natural resource management in the uplands. First, there is a need for improved land husbandry practices that enable farmers to sustain food production on sloping lands. Such practices would help farmers change gradually from a monoculture system to mixed tree, crop and/or livestock-based systems that provide increased income and environmental protection. Second, there must be real and effective participation by the rural population, through their own local institutions, in the decisions that impinge upon their livelihoods. Third, there must be an effective partnership among service providers and stakeholders. This paper describes the evolution of Landcare, a farmer-led movement in the Philippines that has emerged as an approach to successful natural resource management in the uplands.

What is the Landcare approach?

Landcare refers to groups of people who are concerned about land degradation problems and are working together to safeguard the long-term health of the land. It evolved as a community-based approach designed to effect change in complex and diverse situations. In the

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Philippines, the Landcare movement initially arose for rapid and inexpensive dissemination of new conservation farming technologies and agroforestry practices to upland farmers. It was based on the innate interest of farmers to learn and share knowledge about new technologies that generate higher incomes and conserve natural resources (Garrity and Mercado, 1998, Mercado *et al.*, 2000). Effective local community groups and partnerships with local government units became the core of the Landcare model. Now the partnership consists of grassroots Landcare groups, local government units, and technical service providers and facilitators (such as non-government organizations (NGOs) and research and extension agencies). The success of the Landcare approach is dependent on how these three sets of key actors interact and work together.

The Facets of Landcare

Facet 1: Practices that enhance production and natural resources

Continuous crop production on steep slopes in Mindanao induces annual rates of soil loss often exceeding 100 to 300 t/ha (Garrity *et al.*, 1993; Mercado, 2000). The installation of contour buffer strips reduces these losses by 50 to 99 percent and creates natural terraces that stabilize the landscape and facilitate further management intensification. In the early 1990s, the International Center for Research in Agroforestry (ICRAF) began using an indigenous practice called *natural vegetative strips (NVS*), which are made by laying out contour lines on sloping fields and then allowing them to revegetate naturally (Garrity, 1996). NVS are exceptionally effective in soil conservation, even with minimal maintenance, and require no outside source of planting materials. Nelson *et al.* (1998) modeled the long-term trends in maize yields and found that the yield advantage of NVS use increased to about 0.5 t/ha. Since 1996, about 2,000 farmers participating in the Landcare program have now adopted the NVS practice on their farms in the upper watershed areas of northern Mindanao.

Farmers who adopted NVS maximized the benefits of their contour grass strips by planting fruit and timber trees, fodder grasses, and cash perennials on or just above the grass strips. This practice enhances

the productive, protective and aesthetic functions of their farming systems. As interest in planting trees became widespread, ICRAF and other partners facilitated the provision of technical backstopping to Landcare groups that wanted to establish nurseries for fruits and timber trees. Interest in the Landcare groups also gravitated toward other technical issues outside conservation farming and agroforestry technologies, such as backyard gardening, solid waste management and composting, and livelihood activities such as backyard animal raising, apiculture, sericulture, animal dispersal, and establishment of small scale credit unions at the village level.

Facet 2: Institution building

How did Landcare begin? In 1996, twenty-five farmers requested ICRAF training on the establishment of NVS. In the process of learning the technique, the farmers decided to form a self-help group to radiate the practice in their neighborhood. Adjacent villages learned about this and organized their own groups. Within a year, more than 20 self-governing groups had been formed and then federated to become the Claveria Landcare Association (CLCA). The members use the CLCA organization as a mechanism for vertical and horizontal information dissemination, sharing and learning. The CLCA also serves as a venue for addressing issues and solving problems that farmers encounter. It became a mechanism for articulating needs and mobilizing resources from the local government and other support agencies. The association now occupies the driver's seat, steering the wheel of extension and learning in its desired direction.

The Landcare movement spread to the municipality of Lantapan in 1998, where it has been supported by the Sustainable Agriculture and Natural Resources Management (SANREM) program. Today, there are more than 100 Landcare groups in Claveria, more than 60 groups in Lantapan, and groups other municipalities throughout northern Mindanao. More than 5,000 farming families are involved. The groups have enabled conservation farming technologies to be adopted by more than 2,000 farmers and more than 300 communal and individual tree nurseries have been established (Mercado *et al.,* 2000). Hundreds of thousands of fruit and timber tree seedlings have been planted on or

just above the NVS, on farm boundaries and small-scale tree plantations, in the buffer zones of protected areas, and in riparian areas, all through strictly voluntary efforts.

Landcare groups are organized at the smallest political unit – a hamlet or neighborhood of 20 to 30 households (subchapter level). Organization at the neighborhood level encouraged deeper participation, reduced transaction costs and enabled farmers to meet frequently and discuss farming issues. The groups promote camaraderie, knowledge sharing, and enhanced awareness, skills and environmental appreciation.

Each Landcare group elects its own officers, and plans and runs its own activities. This has encouraged widespread leadership and participation. The Landcare neighborhood groups are joined into chapters at the village or micro-watershed level. The chapters are composed of 8 to12 neighborhood groups. The chapters are federated at the municipal (macro-watershed) level. This innovative organizational structure provided both vertical and horizontal mechanisms for information dissemination, sharing and learning. It enabled a mechanism to raise issues from the household level to the municipal level, as well as efficiently filter information from the municipal level down to the household.

Facet 3: Partnership – triadic approach: Building synergy

The strength of Landcare is strongly related to the involvement of three types of organizations: the farmer groups, the local government units and technical facilitation organizations. The farmer groups implement practices that combat soil depletion and erosion, build sustainable agriculture and improve natural resource management. The local government units strongly support Landcare and have extended regular financial, policy, and moral support. Mutual expectations and obligations emerge from the interaction. Furthermore, the extension assistance by the technical service providers is also important to the success of the Landcare groups. The relationship is a triangular one. A balanced triangle depicts a partnership that is working harmoniously with reciprocity in actions and outcomes.

The Impact of Landcare and the Process of Scaling-Up

There is significant evidence that the Landcare approach has created an effective linkage between development and conservation. Through the efforts of the grassroot-level Landcare farmer groups, local government entities, and technologists, a conservation ethic is evolving and biodiversity protection is beginning to be viewed as a local responsibility — one that is pursued with pride. For instance, in Lantapan the number of incursions into the local national park has decreased by about 90 percent in the past three years. The Park Director attributes this to community collaboration and environmental awareness that arose through Landcare.

Landcare is changing the attitudes of farmers, policymakers, local government units, and landowners about how to use the land to meet their current needs while conserving resources for future generations. Farmers voluntarily share their time and efforts. Policymakers are supporting these efforts by allocating local government funds and by enacting local ordinances to provide incentives. The Landcare approach provides:

- A vehicle for interested farmers to learn, adopt and share knowledge about new technologies that increase income and conserve natural resources;
- A forum for the community to respond to issues considered to be important to local citizens;
- A mechanism for local government support; and
- A network for ensuring that ideas and initiatives are shared and disseminated.

Landcare is emerging as a method to empower local government and communities to effectively and inexpensively disseminate conservation farming and agroforestry practices. In the municipalities of Claveria and Lantapan, we have observed an exponential rate of adoption of conservation farming technologies. The experiences and lessons learned provide a strong basis to scale-up to the regional and national levels and to reach out to other municipalities.

The new *Philippines Strategy for Improved Watershed Resources Management* published by the Department of Environment and Natural Resources (DENR, 1998) incorporates the Landcare approach in its key institutional elements and operational framework. As the strategy moves into the implementation phase, the opportunity arises to spread useful Landcare principles and experiences to other parts of the Philippines. However, this process must respect and adhere to the critical underlying elements that have been a basis for its success, particularly a focus on farmer-driven voluntary action and on partnership with local government.

We are beginning to exploit the opportunities that Landcare provides for enabling major innovations in the way on-farm participatory research is conducted. We see the prospect for research to be carried out through Landcare groups. This would multiply the amount of on-farm research that can be accomplished. Currently, we are conducting surveys through the Landcare groups to get grassroots feedback on research priorities. In Australia, public sector research institutions (such as CSIRO) are adjusting to the new reality that through Landcare, farmers have positions, and may even dominate, the boards that decide on research project funding. This is having a galvanizing effect on focusing researchers on problems that concern farmers.

We summarize by listing four hypothesized functions of farmer-led knowledge-sharing Landcare organizations:

- Enhanced efficiency of extension or diffusion of improved practices (more cost-effective than conventional extension functions);
- Community-scale process to seek new solutions or adaptations, suited to the diverse and complex environments of smallholder farming (a unique aspect of Landcare);
- Enhanced research by engaging large numbers of smallholders in formal and informal tests of new practices; and
- Mobilization process at the community level to understand and address landscape-level environmental problems related to water quality, forest and biodiversity protection, soil conservation, and others.

Our analysis indicates that much can be done to further release the power of the Landcare concept. The public sector and non-government sector can assist in facilitating group formation and networking among groups, enabling them to grow, developing their managerial capabilities, and enhancing their ability to capture new information from the outside world. They can also provide leadership training to farmer leaders, helping to ensure the sustainability of the organizations. External assistance in cost sharing for activities can also be provided. For this, the use of trust funds should be emphasized, where farmer groups can compete for small grants to implement their own local Landcare projects. This has been remarkably successful in the Australian Landcare movement.

The evolution of Landcare has stimulated great interest in the government and non-government community of the Philippines. We are now working with a range of agencies to spread Landcare nationally and to develop the capability for Landcare to be integrated into national projects and programs. We envision that the Landcare approach may be suited to other locations in the Philippines and elsewhere, providing a focus for the sustained management of resources by farmers with minimal local government support.

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