Introducing this manual

The 2004 book, *Landcare in the Philippines: stories of people and places*, continues to inspire people to try landcare.

The purpose of this manual

Many people have heard about landcare and are interested in trying it out in their local communities. Some people have been inspired by the stories of landcare in the book, *Landcare in the Philippines: stories of people and places.* However, there is a lack of published, practical, easy-to-understand information on how to implement a landcare program on the ground.

This manual is packed with practical strategies, step-by-step processes and handy tips for getting a landcare program started, keeping it going, and expanding it to new sites. These strategies, processes and tips come from our real-life experiences in the field and reflect our unique collective wisdom. Throughout the manual, we have tried to demonstrate the theory with stories about real people from the communities we work with.

We hope that this manual will help people to replicate and adapt our experiences, not just in the Philippines, but also in developing countries in South-East Asia, the Pacific region and Africa. The manual will also be of interest to agencies in Australia, which is becoming more involved in international landcare programs.

Who is this manual for?

We have designed this manual for people directly implementing landcare in rural communities in the Philippines. Specifically, it is written for:

- **government extension workers** including agricultural technicians in municipal agricultural offices; municipal staff of national government agencies such as the Department of Agriculture and the Department of Environment and Natural Resources; and their provincial government counterparts
- **non-government extension workers** from research and development organisations such as universities, private companies and technical service providers
- **community organisers and field facilitators** from non-government organisations, civil society organisations and religious groups
- **farmer facilitators** from farmer organisations, farmer trainer groups, *barangay* councils and municipal governments (for example, *barangay* agricultural workers, *barangay* extension workers, farmer technicians and para-technicians)
- **local government unit (LGU) officials** such as mayors, *barangay* captains, councillors, members of municipal and provincial development councils, provincial governors and provincial board members.

With landcare, extension workers and community organisers work together with farmers and local government unit officials.

How to use this manual

The information is presented in four sections to match the development stages of a typical landcare program:

Section 1. What is landcare?

If you are new to landcare or you are not sure how it works, start reading here. We describe the principles of landcare, how it works, and how it differs from other approaches. This information is fundamental to developing empathy for landcare.

Section 2. Is landcare for you?

Here we identify the benefits and costs of landcare. This is important reading if you need to be convinced that it is worth trying, or if you need to convince someone else. We also explain the important role of the landcare facilitator in planning and implementing a landcare program.

Section 3. How to get landcare started

We describe the 7-step process for planning and implementing a landcare program in this section. The process is both an operational recipe for landcare facilitators and a framework for LGU officials.

Section 4. How to keep landcare going

So your landcare program is up and running. In this section we explain how to keep it active and growing, and how to expand it to include new sites. The information is particularly relevant to experienced landcare facilitators with established landcare programs, but new landcare facilitators will also find it useful for understanding what lies ahead of them.

Farmers in Ned, Lake Sebu, South Cotabato, prepare seedbeds for vegetable seedlings as part of a farmer training event. With landcare's grassroots approach, activities are focused on farmers.

Opposite: Justiniano Celeres practises landcare on his farm in Pilar, Bohol.

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Landcare is based on a three-way partnership of farmers, local government units and technical facilitators. It is driven by farmers.

Section 1. What is landcare?

Landcare is a farmer-centred and farmer-led, group-based approach to agricultural extension, aimed at improving rural livelihoods on a sustainable basis.

The seven principles of landcare

Landcare is based on seven principles:

1. A strong three-way partnership, with farmers driving the process
2. Trained extension workers
3. An emphasis on building the capacity of farmers to innovate and change their attitudes and practices
4. A focus on sustainably improving farmers' livelihoods
5. The establishment of farmer groups, called 'landcare groups'
6. High levels of farmer/community participation and leadership
7. Starting off by focusing on local solutions for local problems

On steep slopes, farmers can use natural vegetative strips, where native grasses are left to grow in strips between crops, to stop soil erosion.

1. A strong three-way partnership between farmers, local government units (LGUs) and technical providers, with the farmers driving the process wherever possible, is the fundamental principle of landcare.

In this partnership, the farmers share with each other their knowledge and experience, as well as their labour and low-cost materials; the LGUs provide leadership, financial support, technical support and policy support; and the technical facilitators provide technical support and facilitate the farmer groups to plan, implement and evaluate activities.

2. Trained extension workers (we call them 'landcare facilitators') work with the partners to bring about greater involvement in, and ownership of, livelihood issues, particularly by the farmers.

Working at an appropriate pace, they carefully facilitate the development, consensus, ownership and implementation of relevant solutions —economic, social, environmental and political—for sustainable improvement of livelihoods.

A landcare facilitator can be employed by any of the partner organisations, be it an LGU, a government agency, a non-government organisation, a farmer organisation or a private company.

In the landcare approach, farmer trainers pass on their knowledge, skills and experiences to other farmers, helping them to improve their farms and network with each other.

3. An emphasis on building the capacity of farmers to innovate and change their attitudes and practices is important, rather than providing them with particular inputs, such as technologies.

However, it is recognised that new or different technologies are an important component in the process of innovation and change, so landcare facilitators do work to identify and make available to farmers a selection, or 'basket', of appropriate and relevant technical innovations promoted by different projects and having a strong scientific and research basis. Examples include natural vegetative strips, sloping agricultural land technology and natural farming systems.

4. A focus on sustainably improving farmers' livelihoods is part of the landcare approach. Although landcare began with a land management focus, primarily addressing soil erosion, it quickly evolved to encompass people's livelihoods when farmers (and others) saw its benefits in simultaneously tackling other issues relevant to their communities. For example, using the landcare approach, lowland rice farmers in Agusan del Sur are promoting organic farming with reduced use of pesticides and increased use of natural fertilisers.

5. The establishment of farmer groups (we call them 'landcare groups') can encourage sharing and learning among members. Once landcare groups have ownership of the process, they are encouraged to form a landcare association (a confederation of landcare groups within a municipality or *barangay*) allowing them to share knowledge and resources between groups. They are also encouraged to support 'farmer trainer groups' where farmers pass on their knowledge, skills and experiences to other farmers. As landcare associations and farmer trainer groups become better equipped, they may form a 'farmer research committee' to help initiate, design and implement research programs of benefit to their members.

6. High levels of farmer/community participation and leadership make landcare activities more relevant and result in greater ownership of the issues and outcomes. Participation is voluntary and the process is kept relatively informal, in keeping with the way that farmers generally prefer to operate.

7. Starting off by focusing on local solutions for local problems makes it easier for farmers and support personnel to take part and interact, and allows them to gradually build their confidence and capacity before engaging in broader, more complex issues.

Landcare leaves a legacy for our grandchildren

by Basilio Decano

Basilio is a farmer from Lantapan, Bukidnon, in Central Mindanao. His 6-hectare farm is planted with trees, forage grasses, corn, root crops and coffee.

With landcare I have seen an improvement in my corn harvest. Before landcare, I harvested 16 cans of corn from my unprotected sloping farm. After several cropping cycles, the harvest went up to about 100 cans of corn. I also gained an added benefit from planting *gabi* (taro) along the contours. One contour line gave me a harvest of three sacks of *gabi*, and even if it is only priced at P2 per kilo, this benefits my family. I earned P300 for one contour line of *gabi*, which is a lot higher than the money I earned from corn.

Before landcare, my farm used to be a big pathway for rushing floodwaters from above. The flood path was almost as big as our road and it washed away a lot of my newly planted crops as well as some of the established crops. But now I can't see even a bit of that happening. The soil has remained on my land and I see my soil going back to its conditioned state even without the application of inputs. I use goat and cow manure to augment the fertiliser requirements for my crops.

Other benefits I have gained from landcare have been through the sales of seeds and seedlings. The promise of producing income from trees in as short as 3–4 years is also becoming a reality—it's really true! And I have received other benefits, or small 'presents' as I like to call them, such as a hybrid bull, a pig and some ducks. I also received facilitation fees and small tokens of appreciation from being involved in training events and having allowed my farm to be a learning site for visiting agencies and groups.

Before landcare, I was a very shy type of farmer. I could hardly speak with others at all, but I have transformed into a new person over the past 5 years. I can proudly tell my children, who have attained a higher education than me, that I have gained more practical skills and knowledge than them through my experience in landcare.

Even if I'm gone from this world tomorrow, my children and my grandchildren will no longer suffer the difficulties that I did. This is because I have left a livelihood and legacy more precious than gold that can last a lifetime. If I'm gone, they will always remember me through the trees and the other improvements on the farm.

Basilio and Willie Decano in an agroforestry plot on their farm. 'Before landcare, my farm used to be a big pathway for rushing floodwaters from above… [With landcare] the soil has remained on my land.'

How does landcare work?

We are often asked: What makes landcare different? What makes it work? People point out that many good extension approaches are based on similar principles, which makes sense. So what makes landcare unique?

We believe that there are six features that make landcare unique and contribute to it working so well:

1. It has a strong ethic of farmer/community participation and ownership.
2. It places a high value on real partnerships.
3. It has a flexible agenda.
4. It treats facilitation as a specialised extension role.
5. It has a clear identity.
6. It is low cost for individual agencies.

1. Landcare has a strong ethic of farmer/community participation and ownership

Farmers lead and manage the process and readily take part in activities. This approach is an adaptation of the participatory farmer or community-based extension approach. To motivate farmers to take part, landcare places a strong emphasis on farmer-to-farmer knowledge sharing in a group setting (for example, through farm visits and farmer trainer groups).

2. Landcare places a high value on real partnerships

In the partnerships with local and national government agencies, non-government organisations, technical service providers, academic institutions and business groups, everyone contributes (or chooses not to) and their contributions are valued and respected. The partnerships are based on not ‘reinventing the wheel’; rather, they build on and collaborate with existing programs and projects.

3. Landcare has a flexible agenda

Within its broad objective of improving farmers' livelihoods, landcare operates with a flexible agenda. It does not demand that farmers follow an externally driven agenda. Instead, it supports farmers in identifying and dealing with their immediate needs, in the expectation that they will address the larger and long-term problems in due course.

4. Landcare treats facilitation as a specialised extension role

Landcare places a great deal of importance on facilitation as a specialised extension role for achieving change. Landcare facilitators foster collaborative networks across sites and across projects, resulting in a collegial and supportive working environment.

5. Landcare has a clear identity

The name 'landcare' means what it says—caring for the land. The landcare identity also carries an ethic of no political, religious or gender bias.

6. Landcare is low cost for individual agencies

Because it can work without significant material inputs, landcare is relatively low cost to any one agency. What supports this is (a) the emphasis on the partnership appropriately sharing the human, financial and technical resources for landcare activities, and (b) the strong ethic of volunteerism, where participation is focused around community benefits as well as individual benefits.

LFPI Regional Landcare Coordinator Rojo Balane (centre) and Bohol farmers inspect a vermicomposting system for producing natural fertiliser. It is the farmers and their local communities who lead and own landcare, working with landcare facilitators who have a specialised extension role.

Land degradation destroys the soil on farms, reducing crop productivity. It also leads to loss of habitat for animals. It is made worse by practices such as ploughing and cultivating crops down the slope, and burning crop residues, which instead could be returned to the soil to improve it.

What issues does landcare address?

Like many developing countries in the Asian region, the Philippines has a number of rural development issues that can benefit from a landcare approach. These include:

1. land degradation from inappropriate farming practices
2. rural poverty from a combination of population pressure, lack of land and capital resources, lack of access to new and more efficient production technologies, and lack of access to market opportunities
3. rural conflict from lack of security of land tenure, lack of peace and order, and competing land uses
4. isolation and lack of services as a result of remoteness and poor rural infrastructure
5. farmers' lack of recognition and ownership of problems, and their lack of leadership in resolving these problems.

1. Land degradation from inappropriate farming practices

The Philippines is a country that depends mainly on agriculture. More than half of the country's agricultural land is considered uplands, most of which are sloping and very prone to soil erosion. Much of the uplands are farmed for subsistence, mainly with rice, corn, root crops and vegetables. Farming practices generally do not include measures to prevent soil erosion. So, erosion rates can be high, reducing soil fertility and crop productivity over time. Research by the World Agroforestry Centre shows that soil losses from erosion in unprotected upland farms can be as high as 300 tonnes per hectare per year. Eroded soil also causes downstream problems. It can deposit sediment on roads and in streams, reduce water quality, silt up water storage dams, and reduce marine resources and biodiversity.

Other forms of land degradation include reduced soil fertility, soil acidification, degraded soil structure, and increased soil salinity. Land degradation is made worse by inappropriate clearing of forests, which also destroys habitat for animals and reduces biodiversity.

Landcare tackles land degradation by helping farmers adapt and adopt conservation farming technologies such as contour farming systems, improved soil management and protection, forest protection, use of agroforestry and replanting of trees.

Extending the life span of Pilar's water supply

The municipality of Pilar on the island of Bohol has an irrigation dam—the Malinao Dam—that stores about 5 million cubic metres of water. The dam was originally intended to provide water to local farmers for at least 80 years but, due to silt being washed down from the surrounding upland areas, its life span is likely to be halved to 40 years.

A study by the Bureau of Soil and Water Management found that, on average, about 80 tonnes of soil per hectare is being washed into the dam every year. Most of the erosion was coming from cassava and corn growing areas, where the crops were being planted up and down the steep slopes. The local government was also concerned about water quality, especially since many neighbouring municipalities also depend on the dam as a water source.

'We thought it was very important to introduce a system of landcare for our farmers in upstream areas so we can control or stop soil erosion', says engineer Joseph Anania, the Municipal Planning and Development Officer.

'With landcare, we observed that gradually the water discharged from our springs was increasing and they are now regenerating our dam and lakes. Farmers are not losing so much of their fertile soil, and they are increasing their incomes and improving the environment where they live.

'Our vision for Pilar is that it becomes an agro-industrial and ecotourism region where the environment is protected and farmers' incomes are increased.'

Melecio Ocsin is one of the farmers in Pilar, Bohol, who is using landcare to reduce the soil erosion that has been silting up the Malinao Dam.

2. Rural poverty from a combination of population pressure, lack of land and capital resources, lack of access to new and more efficient production technologies, and lack of access to market opportunities

Poverty in the Philippines, particularly in the south, is serious, widespread and increasing. Mindanao remains one of the country's poorest regions, with 14 of its provinces among the 20 poorest provinces in the nation and 50–60% of its people below the recognised poverty line. The situation is similar in the Visayas. Poverty is concentrated in the rural areas, where people involved in agriculture make up 75% of the population below the poverty line. Worse still, its incidence in rural areas has not improved much in the past 10 years.

Poverty is worst in upland areas. These areas are generally 5th or 6th class municipalities (lowest average annual income), distant from major administrative centres, and with poor infrastructure and access to services. The World Bank estimates that average income in the uplands is at least 20% lower than in the lowlands, with surveys showing it to be more in the order of 30–40% lower. Rural income in the upland areas is largely related to staple crops such as corn and rice. Productivity, however, is low and, in many cases, becoming lower. In some areas, a significant proportion of income comes from family members working off-farm or overseas.

When farmers plant a diversity of crops, such as bananas and timber trees together with corn, they have a more reliable income and more food for their family.

Population growth in upland areas remains high at 2.6–2.7% per year, and is higher in some regions as a result of inter-regional migration. An important issue in many upland areas is the large proportion of Indigenous peoples, who are often extremely disadvantaged and remotely located.

Landcare addresses rural poverty by helping farmers to improve their livelihoods through:

- diversifying their cropping systems
- planting high-value crops
- improving production systems (for example, selecting better varieties and fertilisers, and managing pests and diseases better)
- improving marketing systems (for example, from rural enterprises based on natural resource management).

Landcare can also facilitate the design and implementation of culturally sensitive livelihood improvement programs for Indigenous peoples.

3. Rural tensions from lack of security of land tenure, lack of peace and order, and competing land uses

In rural areas of the Philippines, lack of secure land tenure is a major problem for many farmers. The problem is made worse by the continuing marginalisation of farmers to the status of tenants and landless labourers through foreclosures caused by farmers' lack of collateral and poor credit history. Lack of secure tenure is a particular problem in the buffer zones of protected areas, where tensions between farmers and authorities over protected area incursions and inappropriate land management practices is common.

In the competition for land and resources, rural tensions can arise through cultural, political and religious differences. This is a particular problem is some regions of Mindanao. For Indigenous peoples, these tensions make their already significant economic disadvantage even worse.

Landcare eases rural tensions by:

- helping landless farmers work collectively with authorities towards limited tenure options
- brokering collaborative projects in tension areas to address livelihood issues, as a means of facilitating linkages and dialogue.

Landcare transcends tensions in Mindanao

South-western Mindanao is home to around two million Muslims. Due to recurring violence, development interventions are sometimes difficult to implement. Janima C. Bayang is the treasurer of the Malisbong Community Development Organisation (MACDO) landcare group in the *barangay* of Malisbong in Palimbang in the province of Sultan Kudarat. She describes Malisbong as a long narrow coastal strip of land that rises steeply to the mountains, beautiful and lush, with plenty of water, but where families eke out a hand-to-mouth existence. There has been little in the way of government support.

The persistence of a pair of energetic landcare facilitators from South Cotabato—Eldon Ruiz and Lorena Loma, both supported by the Southeast Asian Regional Center for Graduate Study and Research in Agriculture and now the Landcare Foundation of the Philippines, Inc. (LFPI)—finally paid off when they succeeded in convincing the regional office of the Department of Agriculture to provide seeds for the Muslim community. Women are often the first to take on landcare and the women in Malisbong are no different. They have now planted vegetables and fruit trees around their homes as a more diverse and nutritious food source for their families, and they hope to eventually increase their incomes.

For Janima, hunger is at the root of the problems in Malisbong. She is passionate about the benefits of landcare and hopes that the MACDO landcare group can one day inspire neighbouring communities, both Muslim and Christian. ‘When there is food, and people are earning, there is peace’, she says. ‘Landcare can sustain peace because productivity brings peace.’

Janima Bayang from Malisbong, Sultan Kudarat, in south-western Mindanao, believes that hunger is at the root of the tensions there and that landcare, by bringing productivity, will also bring peace.

Top: Members of the Malisbong Community Development Organisation Muslim landcare group in Malisbong, Sultan Kudarat have planted vegetables and fruit trees around their homes to provide a more diverse and nutritious food source for their families.

4. Isolation and lack of services as a result of remoteness and poor rural infrastructure

In the upland regions of the southern Philippines, rural communities can be serviced by a number of agencies, including the national government, local government, private industry and civil society organisations. However, the level of support varies considerably, depending on distance from administrative centres, the state of roads and communication infrastructure, and the local interest and activity of agency staff.

With the devolution of some government roles under the Local Government Code of 1991, the management and delivery of services in agriculture, health, social services and environmental management became the responsibility of LGUs. In agriculture, LGUs now manage agricultural extension staff through a municipal agricultural officer who is in charge of a small number of agricultural technicians. Because the LGUs vary significantly in their approach to extension and in the quality of their staff, the quality of services they provide to communities also varies significantly. Services in isolated upland communities are often fragmented, piecemeal and unsustained. A shortage of LGU funds further limits their presence in the field and their responsiveness.

National government agencies such as the Department of Agriculture, the Department of Agrarian Reform, the Department of Environment and Natural Resources and the Department of Trade and Industry also provide services related to national government programs and projects. The Department of Agriculture is responsible for technical support to LGU agricultural extension staff; however, if the LGU service is limited, the impact of national programs at the community or farmer level will also be limited.

The private sector provides a wide range of services including marketing, and supplying credit, inputs and extension; but companies limit their services to areas where they can make a profit.

Non-government organisations and related People's Organisations often run highly effective programs at the *barangay* or *sitio* level, particularly in some of the more remote upland areas. They provide a range of services in sustainable area development, microcredit and institutional capacity building. However, they are often limited by their agency's mandate and/or geographic scope.

Landcare addresses isolation and lack of services by helping to build an effective interface between local farming communities and service providers. While initially this approach can add to the extension services of LGUs and other agencies, it may subsequently be recognised as a better delivery model for extension services.

LFPI's Northern Mindanao Landcare Facilitator Nelson Tomonglay (left) discusses landcare developments with *Barangay* Captain Samuel Abrogar (centre) and farmer Alejandro Lobiano from Claveria, Misamis Oriental. Landcare facilitates the provision of technical advice and services to remote farming communities by linking farmers with relevant government and non-government organisations.

5. Farmers' lack of recognition and ownership of problems, and their lack of leadership in resolving these problems

Farmers often see some of their problems as belonging to someone else, or they feel powerless to solve them. The more isolated and independent they become, the more these perceptions are reinforced.

Landcare facilitates people to work together to own and solve the problems affecting their farms, their livelihoods and their welfare. Working together like this is deeply rooted in the history and tradition of the Filipino people, particularly in the *bayanihan* tradition of 'working together'. Landcare taps into the *bayanihan* spirit.

Assisted by landcare facilitators, the local people in the community get together with their *sitio* leaders and their *barangay* council representatives who, in turn, work with their municipal agricultural technicians and other development facilitators to develop and implement simple solutions to the problems on their farms. In this way, they start to solve the easy problems. Later, they move on to some of the bigger tasks such as increasing soil fertility, creating organic fertilisers, establishing communal nurseries to produce tree seedlings, and marketing their farm produce. This is what landcare is all about.

With national and local government agencies and non-government organisations working together with the community, local communities can improve their food and nutritional security, sustain and strengthen their livelihoods, and improve the condition of their natural resources by having healthier farms and cleaner and more secure sources of local water. When these changes occur in many local communities, they eventually change the bigger picture of the provinces, the regions and the Philippines as a whole.

Landcare benefits the lowlands

Landcare had its origins in the uplands of Mindanao but has been embraced in the lowlands of eastern Mindanao.

In Agusan del Sur, rice farming systems are well established but farming families still struggle to make a living. And while landcare brings to the uplands solutions to upland-specific problems such as soil erosion, it brings a different set of solutions to address the problems that beset the lowlands.

Betty Fueconcillo, a landcare facilitator with Catholic Relief Services, has been working with farmers and schools in Agusan del Sur.

‘Landcare is getting your land, people and environment working together’, says Betty. ‘Before landcare, local government agricultural technicians only did what was mandated by the government. They were very product-based, focusing on a single commodity such as rice or vegetables. Landcare provides a more integrated approach that gives the farmers benefits that they can sustain.

‘The challenge with landcare is that it is not a typical development project in the Philippines. It does not have a lot of funds. As facilitators, we need to present it to the local government units as something they will own and work with farmers to sustain.

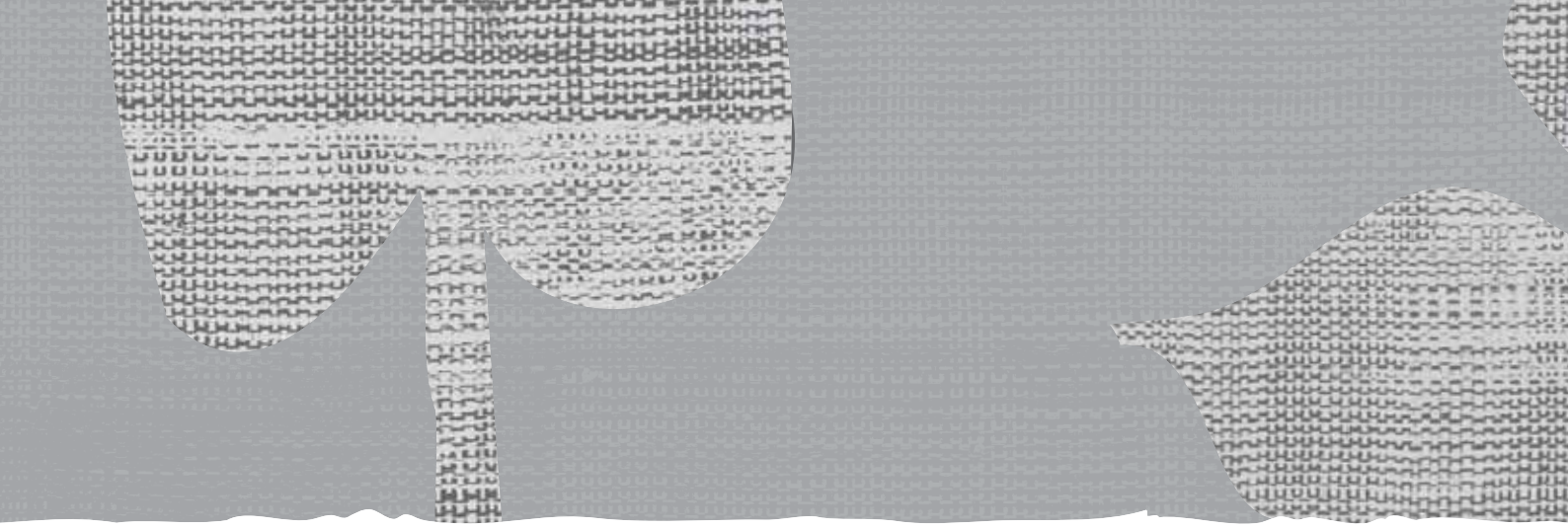
‘Our contribution as facilitators is more in facilitation rather than being the main drivers. This is effective in drawing in more involvement in landcare and, because there is a sharing of resources, there is also a shared accountability.’

Betty stresses that landcare is an approach, not a technology. She believes it is important that landcare is not seen to be linked with any one technology such as natural vegetative strips or organic farming. Rather than going to farmers with a single technology in mind, the farmers decide what technology best suits their needs. In the lowlands of Agusan del Sur, where the main problems are over-dependence on commercial pesticides and fertilisers, and deteriorating soil condition, the farmers chose organic farming as the key technology.

‘We need a common understanding of what landcare really is’, says Betty. ‘Otherwise it will be automatically associated with the specific technologies being introduced. It is the approach that is important, and then the technologies and other components will follow.

‘Government leaders are very impressed with the results from landcare in Agusan del Sur, because they have been delivered with limited resources and finances compared with other projects with huge resources.’

Through landcare, lowland farmers in Agusan del Sur are improving their rice production systems and diversifying their income with new enterprises.



Landcare's entry point: conservation farming

While landcare has the potential to use any entry point that is relevant to farmers, traditionally it starts with helping farmers understand and implement conservation farming technologies such as contour farming systems, improved soil management and protection, forest protection and agroforestry.

These technologies generally show some immediate benefits by increasing productivity and helping to maintain livelihood security. There is also the added bonus for farmers of being seen to be doing something to reduce off-farm impacts of soil erosion. They are helping to sustain downstream agriculture, particularly rice growing, as well as maintaining the integrity of downstream infrastructure such as roads, water storages and hydro-electric installations.

When farmers adopt conservation farming technologies, their livelihoods generally improve incrementally, as follows:

1. With staple crops such as corn, as soil and nutrient losses are reduced, farmers are able to grow enough food for subsistence and cash income.
2. The improved farming system brings opportunities for farmers to diversify and increase their cash income by growing high-value crops such as vegetables, plantation crops (pineapples, bananas) and tree crops (fruit trees, timber trees, rubber). In forest plots separate from their cropping lands, they can plant trees for fruit, timber, fuel and other products. Some farmers also establish nurseries to produce their own seedlings. As well as being a source of cash income, fruit and vegetables can improve the family's nutrition. In this way—by increasing food security, reducing risk and improving cash income—landcare greatly improves livelihood security.
3. Once farmers are involved in improving their farming systems, they often see the benefits of tackling other livelihood issues such as improving sanitation, managing biodegradable wastes for compost, establishing a backyard garden and planting herbal medicines to improve the health of their family. They usually also become more community minded and contribute more readily to community causes.

4. Through the landcare process, farmers embark on a journey of self-development that opens up new opportunities for improving their livelihoods. They acquire new skills, knowledge and self-confidence from interacting more with other farmers, taking the practical 'learning by doing' training provided and visiting other landcare sites. They also connect more effectively with sources of support. They build horizontal links with progressive farmers in other localities, and vertical links with research agencies, private agribusinesses, and industry and marketing organisations. Through these linkages, they gain access to new plant varieties, new production technologies such as integrated pest management, new marketing chains, and new opportunities for generating additional non-farm income, such as training other farmers, and collecting and selling seeds and seedlings.
5. The landcare approach generally gets farmers more involved with their LGU. They have more contact with LGU officials and staff; better access to technologies, training and resources; and more opportunities to get involved in planning and addressing development issues through their *barangay* development council.

Whatever the entry point, the principles of landcare remain the same, and the farmers' livelihoods improve incrementally.

Landcare starts with conservation farming technologies that lead to improved and more diverse farming systems.

Children take the family vegetables to market in Lantapan, Bukidnon. Diversified cropping on contoured farms can improve the livelihoods of farming families.

The main technologies used in landcare

Technologies are technical tools that farmers adapt or adopt to service their needs. Because farmers' needs vary from farmer to farmer and from region to region depending on the characteristics of their farm, the farmer's aspirations and external drivers, the technologies used in landcare vary widely.

Some of the commonly used technologies are:

- soil surface protection technologies (groundcovers, cover crops, crop residues, manures, mulching, crop rotation)
- contour-based soil erosion control barriers or systems (natural vegetation strips (NVS), terraces, bunds, hedgerows, diversion drains, waterways)
- soil management systems (contour ploughing, minimum tillage, ridge tillage)
- alley cropping—growing annual crops such as corn or rice between alleys of fruit, timber or fodder trees, or trees grown for industrial use, such as rubber trees
- agroforestry—growing an integrated mixture of crops; for example, corn or rice with fruit, timber, fodder or rubber trees, and perennial cash crops such as banana and pineapple
- production of plots of trees on non-cropping land, for timber, fuel and other products
- production of high-value vegetable crops such as onion, tomato, bell pepper, carrot, brassicas, potato, sweet potato, ginger and eggplant
- nursery production of fruit and timber tree seedlings
- on-farm production and use of organic fertilisers using composting and vermicomposting techniques
- integrated pest management systems to reduce dependence on chemical pesticides; for example, using parasites and predators to control insect pests, and biofumigation to control soil diseases
- development of niche 'cottage' industries to build on specialist community skills for competitive advantage; for example, making paper from *abaca* and collecting seeds of indigenous trees for nurseries
- marketing technologies to improve market access; for example, cluster marketing and quality management.

If technologies are to help improve sustainable livelihoods, you need a balance of those technologies targeted at ensuring sustainable production and those targeted at improving income.

Remember that it is not the technologies that make landcare—it is the way in which *technologies appropriate to farmers' needs* are identified and applied.

Everyone can play a part

We have talked about how farmers, government agencies and technical service providers are fundamental to the success of landcare. But everyone in the community can play a part, depending on the needs of the community.

Here are some examples of how other groups can contribute:

Households

Parents and children can manage waste around the home, turning it into compost that they can then use to nourish their plants. They can also reuse and recycle other household wastes. Backyard fruit and vegetable gardens and herbal medicine gardens can also be established around the home.

Community groups

Youth groups, women's groups, groups of elderly community members are just some examples of groups that can take part in community tree planting, *sitio* beautification, clean-up days, and work to help farming families in need.

Businesses

Corporations that are involved with farming communities have corporate social responsibilities and are often interested in supporting concepts such as landcare. There is also potential for landcare to be a component of their environmental compliance processes (for example, Environmental Compliance Certificates and Environmental Impact Assessments).

Religious groups

Religious groups can run their own small landcare projects to improve livelihoods and the environment or they can incorporate landcare into existing projects such as those of the Indigenous Peoples Apostolate. Church leaders can promote landcare concepts of stewardship and effective communication during their sermons.

Schools

Teachers can incorporate landcare principles into the curriculum of appropriate subjects and run small landcare projects on growing vegetables, planting trees and managing waste. In rural areas, where most school children are from farming families, when landcare is taught in schools, the children can have a powerful influence on their parents' farming behaviour.

Children teaching parents

The children attending Malamba Elementary School, an hour's drive from Davao City, are growing up with landcare. Ninety-five per cent of them are Bagobo Indigenous people. Many of the children swim or raft across the Davao River every day to get to school.

Since November 2007, the elementary school and the adjacent high school have been working with Catholic Relief Services (CRS) to bring landcare into the schools. CRS has been testing the benefits of landcare in the Agusan del Sur province of eastern Mindanao and has been promoting landcare to schools in five other Mindanao provinces.

The children at Malamba have planted fruit trees such as lanzones and rambutan, and a vegetable garden, in the school grounds. They have been taught how to make fertiliser from leaves and decaying matter.

School principal Melba Robrigardo sees that the benefits of students doing landcare include spin-offs to better farming practices throughout the community. 'The children understand the importance of landcare because it affects their lives and their future. And they are starting to influence their parents. They are teaching them not to have the "slash and burn" way of farming', explains Melba.

The produce grown by the children is also generating income, some of which goes to the children's families and some which Melba uses to improve school facilities. In spite of its proximity to Davao City, the school has no electricity. Three recently donated desktop computers sit on display, still wrapped in plastic. 'I let the children touch the keyboards now and again so that they can get the feel of them', says Melba. Electrification is now on its way and, thanks to landcare's connections with Australia, the students now have four microscopes to help with their studies.

Malamba Elementary School students are learning that there are better ways of farming than 'slash and burn' and are starting to influence their parents.

Summary – What is landcare?

The key points to take away from this section are as follows:

1. Landcare is farmer-driven, farmer-focused and works to sustainably improve farmers' livelihoods.
2. It relies on a strong partnership between farmers, local government units and technical providers, who work with trained landcare facilitators and organised landcare groups.
3. It looks for local solutions to local issues and problems such as land degradation, poverty, conflict, isolation, lack of services, and lack of skills.
4. It relies on partnerships with both government and non-government agencies.
5. It works without significant material inputs and is relatively low lost.
6. It usually starts by introducing conservation farming technologies such as soil surface protection, contour-based soil erosion control, soil management systems, alley cropping, agroforestry, forestry plots, high-value vegetable crops, nursery production of seedlings and integrated pest management.
7. It improves livelihood security, sanitation and family health, and boosts the knowledge, skills and confidence of farmers.
8. All sectors of the community can contribute—households, community groups, businesses, religious groups and schools.

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