

Landcare

Local action — global progress



Edited by
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Contributing organizations

World Agroforestry Centre

The World Agroforestry Centre (ICRAF) has been a strong supporter in the development and funding of this book. ICRAF is an autonomous, non-profit research organization whose vision is a rural transformation in the developing world where smallholder households strategically increase their use of trees in agricultural landscapes to improve food security, nutrition, income, health, shelter, energy resources and environmental sustainability. The Centre generates science-based knowledge about the diverse role that trees play in agricultural landscapes, and uses its research to advance policies and practices that benefit the poor and the environment. One of 15 centres of the Consultative Group on International Agricultural Research, ICRAF is headquartered in Nairobi, Kenya, and has offices in about 20 countries, including Brazil, China, Cameroon, India, Indonesia, Mali, Malawi, the Philippines and Vietnam.

It receives funding from over 50 different governments, private foundations, international organizations and regional development banks. The current top ten donors are Canada, the European Union, International Fund for Agricultural Development (IFAD), Ireland, the Netherlands, Norway, Sweden, the United Kingdom, the United States of America and the World Bank.

ICRAF has been instrumental in initiating Landcare in the Philippines and East Africa and has provided encouragement and support to the development of Landcare in other countries.

Landcare International

Landcare International (LI) was established in 2004 as a professional association of individuals (and institutions) committed to the principles, philosophy and practices of Landcare, to champion and raise the visibility of the Landcare movement at the global level, and the need to further spread adoption of the Landcare approach. Administrative work for LI is performed by a virtual Landcare International Facilitation Unit (LIFU), hosted by the World Agroforestry Centre (ICRAF) in Nairobi, Kenya.

LI aims to enhance worldwide recognition and adoption of the Landcare approach as a viable model for conserving the environment and natural resources, effective

Landcare

public–private partnerships, and authentic stakeholder participation in community action and decision making. LI supports research, training, and the collection, dissemination and adoption of knowledge relevant to Landcare, international coordination of peer-to-peer learning, and sponsorship of educational exchange activities among Landcare participants. Specifically, LI aims to:

- *Build* a supportive global network that draws together Landcare participants to learn from each other through information exchange, people exchanges, peer-to-peer learning, regular conferences and training workshops, thereby encouraging national Landcare initiatives.
- *Facilitate* access to and extension of research and development, and relevant science and technology innovations.
- *Establish* and *maintain* a lessons-learned database of Landcare successes.
- *Broker* and *mobilize* financial resources to facilitate strategic investments in Landcare.
- *Promote* guiding values associated with the Landcare philosophy.
- *Facilitate* multi-level and multi-sectoral relationships within national Landcare projects and activities.
- *Assist* with the development of Landcare in interested countries.

For more information about LI, visit <http://www.landcareinternational.net>

Australian Landcare International

Australian Landcare International (ALI) is a non-profit organization formed in early 2008 by experienced Landcarers in Australia. ALI aims to assist overseas groups in various ways to take up Landcare ideas, and establish Landcare programmes and projects.

Many interested overseas visitors have seen Landcare at work in Australia and are keen to apply Landcare actions to overcome natural resource problems and improve lifestyles in their own countries. ALI aims to support this interest through encouragement, linking sister groups, providing guidance to new groups, and offering opportunities for contact between individual Australian Landcarers and their overseas counterparts. Currently, ALI's activities include:

- Providing Landcare travel fellowships for overseas study visits by Victorian Landcare coordinators.
- Developing a database of Landcare expertise across Australia to assist overseas project managers.
- Acting as initial contact point for overseas enquiries on Landcare.
- Providing a newsletter on international Landcare activities.

For more information about ALI, contact Horrie Poussard at poussard@thereef.com.au or Rob Youl at rob.youl@landcareaustralia.com.au

Landcare

Contents

Acknowledgements		2
Foreword		3
1	Globalizing local actions C. NEELY, D. CATA CUTAN & R. YOUL	5
2	Landcare in Australia M. JOHNSON, H. POUSSARD & R. YOUL	13
3	Landcare in Germany B. BLUEMLEIN	31
4	Landcare in New Zealand D. ROSS	41
5	Arctic Landcare B. BARKARSON & M. JÓHANNSSON	55
6	Landcare in the Philippines M. N. DANO, E. ELAGO, D. CATA CUTAN & A. MERCADO	64
7	Landcare in South Africa L. BOSOGA, K. TAYLOR, S. MKHIZE & B. MSOMI	79
8	Landcare in East Africa J. TANUI & D. RUSSELL	94
9	Landcare in America D. ROBERTSON, C. GABBARD, B. HULL, J. MOLES, J. STOKOE, S. BURGE, J. WALDON & D. LOWE	110
10	What is the future of Landcare? D. P. GARRITY	126
Contributors		135

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Foreword

Planet Earth is experiencing environmental change of a scale and speed without precedent, driven by climate, human population growth and changing consumption patterns.

The world will need to double food production by 2050. We have doubled food production at a comparable rate in the past, mainly through clearing, cultivating and irrigating more land, and through increased use of fertilizer and improved varieties. Those options are narrowing to the point where it seems likely that food production by 2050 will have to be achieved using less land and water than is being used today. If the current trend towards biofuels continues, then the squeeze on land and water resources will intensify further.

Significant implications arise from this scenario. Firstly, it is clear that we have to improve the management of our existing farmlands and managed forests to substantially lift productivity from the same amount of land, using less water, with higher energy and fertilizer costs, in a changing and more variable climate. In order to do this, we will need to learn, to innovate and to share knowledge better than we ever have in the past. We will need to make the best possible use of the rich variety of local knowledge, the best available science, smart policies and supportive institutional frameworks. We will need ways of engaging a broad cross section of land users, and of working and learning together towards shared goals, from the scale of individual fields, to farms, to whole communities, landscapes and watersheds.

So we face an unprecedented production challenge, an unprecedented sustainability challenge, and to meet these we face an unprecedented learning challenge.

This book illustrates how the sustainability and learning challenges are already being taken up, from the Philippines to Iceland, from South and East Africa to Germany, from the USA to Australia, under the broad banner of Landcare. Landcare is about voluntary neighbourhood groups of farmers and other committed people working together at a local level. While objectives vary across the colourful tapestry of Landcare activities internationally, they usually centre on developing, sharing and implementing more sustainable ways of managing land and water resources, conserving biodiversity and improving landscape amenity.

Landcare has been operating in Australia for more than 20 years, involving between one-third and one-half of the farming community and becoming one of the country's best known and respected environmental brands. It has sprouted in a diverse mix of other countries, with modest, sporadic assistance from Australia.

After 20 years, Landcare in Australia is no longer considered novel. It is also faced with so many challenges: in many regions local landcare groups have lost momentum and

direction. The development of 56 regional natural resource management bodies across the continent, through which most public funding is now directed, has diverted talent, energy and resources. After a decade of drought in many regions and desperate water shortages, the very viability of agriculture is under question. Indeed, Landcare in Australia is in transition; nevertheless, it has been very influential in changing local community norms, in increasing community commitment to sustainability, in attracting and sharing information and resources at a local level, and in bringing together a wide range of farmers and conservation interests. Those are necessary conditions for sustainability, but they are not sufficient. In the absence of land management practices that are sustainable, profitable and adoptable on a wide scale, then community commitment and cooperation alone cannot deliver widespread improvements in the condition of the natural resource base.

There are many lessons to be learned from the Australian Landcare experience, some of which are no doubt relevant in other countries. Equally, there are lessons from the exuberant expression of Landcare in other countries that could inspire Australia. The need for local learning and collaborative community efforts in the face of unprecedented environmental change will intensify, not disappear.

This collection of personal essays and insights captures very well the diversity of Landcare and its evolution in a wide range of contexts. At the heart of the Landcare concept is the notion of being grounded in local communities, with local communities owning their own problems and their own solutions rather than having them imposed from outside. Consequently, it is inevitable that Landcare is expressed in different ways in different contexts.

Nevertheless, similar themes emerge across these Landcare stories from many lands:

- the value of participatory approaches that involve farmers and other community members directly in developing and implementing practical land restoration and improvement measures;
- the achievements of Landcare at a district scale and wider in working out ways of tackling problems that cross farm boundaries;
- local development of local approaches grounded in local social realities;
- Landcare's success in collective negotiation and garnering of resources, often through farmers working together with conservation interests; and
- the importance of champions, both individual and institutional.

A bigger theme jumping out from these pages—in fact the *raison d'être* for the book—is the value of pooling the experiences and insights emerging from Landcare around the world. Hopefully this very useful volume will lead to more frequent and extensive international exchanges of knowledge, contacts, ideas, energy and resources. If so, that will be a very valuable contribution in helping us to meet the unprecedented challenge facing the world—of learning for sustainability.

Andrew Campbell

1

Globalizing local actions: an introduction to the ever-expanding story

Constance Neely, Delia Catacutan and Rob Youl

Little time to waste

Histories of eras and empires rarely mention land and water degradation, but natural resource deterioration has occurred over the millennia, especially when cropping, grazing and forest utilization intensify and the climate changes, as has been the case over the last century.

Over the last 50 years we have also seen professional and institutional concern, long-term research, dedicated efforts by many individual landowners, legislative initiatives, United Nations (UN) and other global programmes, international conferences, conventions, projects and assessments under our collective belt. Despite these positive developments, land degradation still affects some 1900 million hectares of land worldwide.¹ Along with continued land degradation, water supplies to many communities have declined in quantity and quality, affecting about 40% of all humans.² Moreover, biological diversity has dramatically lowered. Altogether, this leaves many human lives and livelihoods at risk. Agricultural practices have brought about many negative consequences that jeopardize ecosystem services.³ Over 850 million people are food insecure, and slow advances toward the most well-intentioned goals of reducing poverty, food insecurity, and improving the environment have been frustrating if not embarrassing.

However, notwithstanding unsatisfactory progress to date, our learning has been unprecedented. It is widely recognized that our problems are in fact manifestations of both biophysical and social dimensions and the solutions rest on the collective capacity of multiple actors to work through a participatory, interdisciplinary and holistic approach simultaneously at multiple scales. We have learned from our successes and mistakes, and find that we continue to reinforce Margaret Mead's words expressed so long ago, "Never underestimate that a small group of thoughtful committed people can change the world; indeed it's the only thing that ever has." The innovation of Landcare, now international in nature, is a profound case in point.⁴

Landcare—the conservation coalition

In 1986, when a group of farmers from Australia formed the first landcare group, it is likely that they did not realize that both national and international movements were being seeded. Landcare started as a means for land users to work together to address land and water issues on neighbouring farms and subsequently grew to address issues at the watershed or catchment scale. Now spreading across the world, Landcare continues to bring together groups of people from civil society, private and public sectors who want to make a difference both in the landscape and in the livelihoods of their communities and countries.

Landcare was founded on and has subsequently evolved from key principles including:

- community based and led sustainable natural resource management within a participatory framework that recognizes the value of information sharing, uses social pressure for change and includes all land users (rural and urban) so that they take ownership of the process and outcomes, resulting in greater effectiveness;
- integrated sustainable natural resource management programmes in which resource components are recognized as linked in time and space; and
- the importance of simultaneously improving people's livelihoods and the natural resource base upon which they depend, paying attention to social, economic, environmental and cultural sustainability.

This simple but well grounded set of principles recognized by the growing number of actors has led to Landcare being established on six continents.

Expanding the circle

The success of Australian Landcare has inspired and stimulated the development of Landcare programmes in many other countries. Without a systematic scaling up strategy, the Landcare concept spread quite spontaneously by 'word of mouth'. It appears that a good idea, whose time has come, has the potential to be taken up naturally.

One key to this process are so-called 'Landcare champions' who share the same goals and philosophy mirrored by Australian Landcare, and confidently adopt the name and

principles into their own efforts. Today, some 17 countries or multilateral organizations in the Pacific, Africa, North America, Europe and South East Asia are either independently implementing Landcare programmes, or receiving limited support to initiate them.⁵

The genesis of Landcare in different countries was unique and Landcare developed through different pathways and entry points, through national government agencies, public research and development institutions and non-government organizations (NGOs). The inception of Landcare began with committed individuals acting either within their personal capacities and through their personal beliefs or on behalf of their respective organizations as Landcare champions. Usually, these efforts progressed through formal arrangements with either national government regimes or research agencies and NGOs, and of course, the pathways through which Landcare programmes developed influenced the ways in which Landcare outcomes are being achieved.

We are all leading

An interesting aspect of the initial spread of Landcare is that there was no single agency that sponsored scaling up efforts. Unlike globally sponsored projects, Landcare grew through efforts of either national partners who are either using their own internal resources or receiving limited external support, or through international organizations working with multiple partners at various levels, for example the World Agroforestry Centre (ICRAF). Many of these partners are informally networked as Landcare practitioners, supporters, advocates and researchers—they communicate to seek and share information and maintain connections to advance the programmes. A key element to this development is ‘trust’ and strong interpersonal relationships among key personalities that championed the cause of Landcare.

National government agencies are outcome-oriented and focused on meeting national goals. In some cases, they are perceived to be following a ‘top-down’ approach, but their advantage is that they often have better resources with greater consistency to support the development of Landcare through their own relevant programmes in agriculture, natural resource management, rural livelihoods and job creation as in the case of South Africa. Research and development (R&D) institutions and NGOs, on the other hand, are process and results oriented, putting more emphasis on education and capacity building. Yet they are dependent on external funding, often equating to a more time-consuming Landcare process. The advantage, however, is that the process-oriented approach employed by R&D institutions and some NGOs allowed for a better understanding of contextual issues relevant to Landcare at each site—this process is usually carried out through action research.

Equal opportunity, issues and activities

The scope of Landcare programmes varies in different countries, but the issues that they are trying to address are quite similar. They also adhere to the same principles, which

are the enrichment of human and social capital to mobilize local actions to reverse land degradation issues and improve rural livelihoods, with emphasis on local demand, volunteerism, genuine participation, effective partnerships and support from beyond the local level. The contexts in which Landcare programmes operate are both different and similar. The main difference or similarity among countries where Landcare operates is their socio-economic contexts, which are categorized into developed countries and developing countries. In addition to local specificities, developing countries share among themselves a greater proportion of the world's environmental and socio-economic problems. Similarly, rich countries share commonalities in economic status and in the issues and challenges they face. Clearly, there are many disparities between developed and developing countries, but some problems are universal, particularly the potential negative impacts of climate change, land degradation and biodiversity loss. Notably, a common denominator in these societies is their attendance to democratic governance, where government devolution is supportive of grassroots initiatives and public-private partnerships.

The range of activities in Landcare is quite common: managing common property resources, adoption and dissemination of sustainable farming technologies, capacity building, knowledge sharing about natural resources management (NRM), land tenure claims, policy advocacy, agro-enterprise development, market linkaging and resource generation for livelihood financing. Many of these efforts demonstrated significant NRM outcomes. In almost all situations, government support is crucial and desirable, but as seen in some cases, this is not always essential.

There are identifiable preconditions for success and these may be reduced to achieving a balance between community efforts, government sponsorships, and support and broad partnerships with the private sector and other external agencies in the form of technical or institutional innovations, advocacy and funding. In Australia and Germany, Landcare could not have grown as fast without government funding, private sector support and strong grassroots efforts. Similarly, in Uganda and the Philippines, Landcare has grown through support from local governments and external agencies. Hence, even in such extremely different conditions as the Philippines or Uganda and Australia or Germany, grassroots initiatives could not have gone very far without the concerted support of local and national governments and other external actors.

Despite great differences in socio-economic status between developed and developing countries, a common limitation is the inability of national governments to respond to grassroots initiatives at a scale that would make meaningful improvements in livelihoods and NRM simultaneously. Landcare developed along a new and improved pathway, through a coalition of committed local champions, with modest support from local and national governments and external agencies. This process usually emerged from the bottom up, but later influenced the broader policy agenda. Regardless of the variations in the genesis, scope, and the pathways that Landcare takes, the philosophy behind these efforts is fundamentally shared.

What have we learned to garner success?

Over 20 years of ‘schooling’ since its inception in Australia has brought about a great number of important lessons learned. Add to that the newer programmes emerging over the last decade in Southeast Asia, Southern and Eastern Africa, Europe, America and New Zealand—there is a story that needs sharing. Landcare programmes tend to stem from the same sets of community or government priorities around sustainable land and water management, however, from the founding efforts to the more nascent programmes, there are diverse entry points for programme development just as there are a wide set of lessons to be drawn upon.

In the chapters that follow, each of the regional or country based programmes provides what has been learned, and what has to be in place to make a Landcare programme successful. While some lessons are context specific, there are a number of lessons which cut across programmes regardless of the phase of implementation or whether centred around privately or commonly held land.

Community-driven, community responsible. The programme has community ownership and leadership. Community landcare groups define their desired outcomes and are proactively generating actions for implementation. Responsibility, accountability and the necessary budget must be held at the community level. Taking advantage of complementary resources among the local actors, particularly when external funds are scarce, promotes a sense of ownership and commitment to the Landcare principles. Without ownership, the enthusiasm and commitment of local communities may quickly dissipate. Governments provide direct or indirect support without necessarily taking the lead. This trust in community ability at the government level brings out stronger community empowerment.

Community planting day,
New Zealand.



Volunteerism and the law of attraction. There is a spirit of volunteerism at play. People are bringing themselves and their resources to the effort because it holds a deep meaning to them, and this kind of commitment has a track record of success. Many groups have a full- or part-time coordinator to support the concerted efforts.

Multi-stakeholder coordination. Landcare programmes involve all relevant stakeholders—men, women, senior citizens and youth, and from various sectors—ensuring the synergy of the collective wisdom while drawing on the expertise and knowledge of each. This uniting of diverse and complementary interests assists in the long-term success of the programme. The sharing of resources among stakeholders as partners is an inherent part of Landcare and interventions are collectively designed to be strategic, avoiding inefficient piecemeal or fragmented efforts.

Access to expertise in a coordinated way. Landcare groups need access to land management expertise available from district conservationists, extension agents, landscape architects, foresters, fish and wildlife biologists and others. Effective partnership with technical experts combined with local knowledge is crucial to achieving quality project outcomes. Landcare groups play a role in developing a more coordinated response to information and skill priorities of land managers and owners. Access to information is streamlined for responding in a timely way through networks, linking land managers to government, non-profit, college and other resources.

Flexibility, adaptive learning, evolving nature. When implementing new policies and programmes, Landcare leaders encourage open-mindedness and an awareness of the diverse reactions to changes throughout the courses of actions. To maintain consistency within a process, adaptive and reactive management achieves successful results. Policies and practices themselves must also be adaptive to emerging changes in the socio-economic and environmental dynamics, constituting the triple bottom line in environmental decision-making. Additionally, nationwide rules are avoided and flexibility is encouraged for programmes that recognize that most Landcare actors are volunteers and cannot always meet tight deadlines.

Learning and capacity building. Turning away from top-down development bureaucracies in favour of organizations concentrated on process and capacity building, Landcare stimulates continuous learning as a guiding principle. Using champion individuals, Landcare demonstrates that capacity building is achieved through even modest resources in a natural process of assimilation and commitment building. Emphasis on livelihood improvement in Landcare projects is coupled with continuous education and value transformation. This orientation on learning combined with the willingness to experiment, fail and draw lessons is the key to achieving Landcare goals.

Process and facilitation. Highly facilitative Landcare leaders demonstrate that management includes being a part of a joint learning process. Landcare facilitators are able to identify communication networks within agricultural systems as well as the key actors for shaping agricultural and rural development for a coordinated and cost-effective response process to local needs. The facilitation process is strengthened when the value of tapping farmers' multiple sources of information and insights that shape and enrich their knowledge base are recognized, when competencies in diagnostic and

facilitation skills are improved, and when collaboration with other disciplines and sectors to assist in identifying and solving local problems takes place.

Private sector engagement and financial input. Funds from all community sectors for projects and community education campaigns are substantial in the achievement of Landcare goals. Landcare creates economically sustainable land management systems and actively includes local private businesses for improved market share, profits and resilience. Landcare appeals to corporations interested in investing in the emerging Landcare movement to fulfill a part of their corporate mission, to improve relations with the community, or to associate their products with a popular conservation ethic. Specialized trust and foundation grants are of particular use for specific projects.

Local to national. Pathways for the integration of Landcare from practice to policy vary according to circumstances and are adjusted to realities on the ground. Landcare practices can enter into active policy by being mainstreamed or adapted into existing NRM strategies.

Coordination. National community based efforts serve Landcare well by providing technical support, organizing fieldwork teams and contributing in other broad ways to support locally driven actions. Without such organized entities at the national level, the efforts of Landcare participants would not be easily observed by State and Federal governments.

Policy support. Policies such as taxation incentives assist farmers undertaking Landcare works. Policies can also establish networks to promote Landcare as a complementary approach to resolving many environmental and poverty issues, advocating Landcare in regional or continental development initiatives and in building national and regional capacity. Other enabling policies may include the granting of access by Landcare management to knowledge and technologies controlled by the government, such as Geographic Information System (GIS) and aerial photographs.

Existing structures and strategies. Academic institutions are utilized to bring youth groups into Landcare activities. Farmers' organizations and conservation bodies are accessed for support. Communities facing related land planning and conservation issues can continue with existing mechanisms to campaign separately, yet complementary to Landcare. Strategies based upon existing tools and technologies such as the GIS database, aerial photographs and others utilized to track land issues greatly assist in the NRM process and Landcare knowledge base. Governments can also assist by channelling current agri-environmental resources from international schemes to deserving communities and individuals.

As a reader, it is anticipated that many of these lessons and success factors may resonate as 'old news' and that would be considered good news in the Landcare community. We are learning and building upon what works and we are finding that by bringing these different lessons and factors together, monumental leaps are taking place.

Why this book?

The Landcare movement is growing exponentially and its history matters. For this reason, this book has been drafted, in true Landcare form, by many hands. It brings together story after story of how Landcare is emerging in different geographical and cultural contexts—what has worked and not worked. The aim of this book is to provide insights into the nuts and bolts of the different experiences, how they came together and what the next steps may be. It is a snapshot in time but one that will serve as a resource to those who are going to take it forward in their own communities, countries and regions.

Most of the chapters deal with specific country and regional experiences. We have chosen to provide these accounts more or less to a timeline, with Australia, as the founding matriarch of the movement, providing the first story. The final chapter projects the future of global Landcare, coordinated by Landcare International, and the next and necessary steps to take it forward, based on the several working models described in this book.

Notes

¹ <http://earthwatch.unep.net/emergingissues/desertification/landdegradation.php>

² <http://www.fao.org/newsroom/en/focus/2007/1000521/index.html>

³ Millennium Ecosystem Assessment

⁴ In this book, we use the terms 'landcare', 'LandCare', and 'Landcare'. In America, South Africa, and other places, 'LandCare' is often used to denote the community landcare movement as a distinctive approach to the more general idea or practice of landcare—people taking care of the land. Likewise, 'Landcare' is often capitalized when referring to formal state-supported landcare programmes. In this book, we also use the term America to refer to the United States of America, and North America generally.

⁵ Countries with Landcare programmes/initiatives or Landcare variants are Australia, Canada, Fiji, Germany, Iceland, Kenya, New Zealand, the Philippines, South Africa, Tanzania, Uganda, the UK, USA and Zimbabwe. Efforts to develop Landcare programmes are on-going in Ethiopia, Rwanda, and several countries in the Pacific Islands. The maturity, scope and intensity of Landcare programmes vary from one country to another, and in others, others, such as Iceland, Landcare comes with a different name, based on a home-grown ramification of the Landcare concept.

2

Landcare in Australia

Mary Johnson, Horrie Poussard and Rob Youl

The Development of Landcare

Australia's problems

European occupation in 1788 brought the massive clearing of indigenous vegetation from Australian land. This led over the next 100 years to major soil and biodiversity losses including extinction of many plant and animal species, salinity, innumerable weed and pest infestations, and poor water quality in many water bodies. Concerns about the degrading natural environment were raised over that period by local communities, scientists, farmers and politicians, but to little avail.

The roots of Landcare

The period from 1945-85 was a prosperous and development-oriented era in Australia's history, where state and national governments recognized the need for conserving natural resources. State government agencies with research and advisory functions were set up to turn around the damage. During this period, financial support for paddock and farm-level conservation was provided to individual farmers with guidance from State government advisors. Later, it was realized that there was a need for farmers to work together to have more impacts in reducing soil erosion beyond individual farms. Catchment-wide programmes were developed and supported; a prime example was Victoria's Eppalock Project, which covered 860 km², and involved 300 landholders. The project was successful in reducing sediment flows in the Eppalock reservoir by 80% in the late 1960s. However, despite the time and considerable human resources committed to these projects, they did not generate broad community support.

In the early 1970s, a strong debate on land degradation at the parliament level had started, especially on salinity issues. This debate has led to major policy and funding initiatives in the Murray-Darling basin¹, and several government and private institutional structures and projects were set-up in different states (table 1).

Table 1. Government and private institutional structures

State	Institutional structure	Year created
Victoria	Soil Conservation Authority's Regional Advisory Committees	1941
	Group Conservation Areas	1960s
	Garden State Committee's farm trees groups	1981
	State Salinity Bureau	1983
Queensland	Darling Downs regional projects influenced by social academics Dr Brian Roberts and Dr Joan Tully	1970s
WA	Land Conservation District Committees	1982
NSW	Total Catchment Management programme	1980s
Tasmania	Private Forestry Division	1970s
SA	Soil Conservation Bureau	1980s

The Australian Government's National Soil Conservation Program had begun in 1983, providing funds for education, training, demonstration, research, publicity, technical assistance and planning. In 1985, funding was also provided to evaluate the roles of community groups in improving soil conservation performance. Subsequently, many other projects were developed, and community organizations flourished, including Greening Australia (1983) with its subsequent One Billion Trees programme in the 1990s, Conservation Volunteers Australia (CVA) and the 180-member Warrenbayne Boho Land Protection Group in Victoria (1983), which developed local leadership and created opportunities for independent community action. But prior to this, in 1982, a private initiative, the Ian Potter Foundation's Potter Farmland Plan, was already showing excellent collaboration between farmers, the Foundation and the Victorian Government in terms of private property management. This effort underscored the important role of generous philanthropy to conservation.

Landcare begins

The name 'Landcare' originated in the south-eastern mainland state of Victoria. In search of a statewide holistic programme, Joan Kirner, then Minister for Conservation, Forests and Lands, requested assistance from Heather Mitchell, Victorian Farmers' Federation President. Despite differing political backgrounds, Kirner and Mitchell readily collaborated; they knew rural Victoria was facing serious problems from salinity, soil erosion, pest infestation and loss of native plants and animals. In November 1986, the government of Victoria launched a state-wide multi-disciplinary and community based programme to reverse land degradation issues. The programme was named

'Landcare' to capture the broad spectrum of technical and social aspects in natural resource management. The first group, which still operates today, was formed at Winjallock on 25 November 1986. The first funding for landcare groups came through an allocation of \$200,000 by the Victorian Government in 1986–87.

The Landcare programme proved to be practical and attractive to local communities. By 1990, 70 groups in Victoria had formed, some with part time coordinators, to help group members identify issues, develop action programmes, arrange technical training and planning and make links with other relevant organizations. Landcare focused initially in the rural areas, but many urban communities wanted to form groups to restore publicly owned bushland with environmental and recreational values. Today, in Victoria, there are 800 rural landcare groups, 550 urban conservation groups and 300 community associations engaged in Coastcare projects.

Scaling up Landcare at the national level

Another fruitful alliance emerged between executives of the National Farmers Federation, Rick Farley and Andrew Robb, and Philip Toyne of the Australian Conservation Foundation. These leaders recognized that the long-held conflict between conservationists and farmers derailed efforts to reverse environmental degradation. Drawing on their diverse experience, they secured bipartisan support from the national government for Landcare. Subsequently, the Australian Government declared the 1990s as the Decade of Landcare (1990–99). From that point, Landcare spread rapidly to every state and mainland territory.

Community tree planting on cleared hillside.



National funding for Landcare

The National Landcare Program

The pinnacle of Australian Government support to Landcare was achieved when it launched the National Landcare Program (NLP) in 1993. Currently (2005–08) AU\$110 million has been provided to support Landcare activities. The NLP aims to develop effective partnerships and collective action between government authorities, local communities and industries to sustainably manage the environment. The NLP invested substantially in training facilitators and farmers in various technical and social skills needed to extend best management practices. Through the NLP, partnerships with landcare groups, facilitators, coordinators, volunteer groups and primary industry organizations were created at the regional and local levels.

Projects funded under the NLP vary considerably. At the local level, projects include sustainable production, revegetation and restoration of degraded lands. Most government funding requires input from the recipient, whether a group, a landholder or a government agency. The NLP has been effective in encouraging farmers to adopt sustainable management practices that improve productivity, profitability and the conditions of natural resources on and off farm.² Within the NLP framework, four important Landcare structures were created:

- Australian Landcare Council (ALC). The ALC is composed of multi-sectoral representatives from states and regions, performing an advisory role to the Australian Government on matters related to Landcare and broad natural resource management issues.
- Landcare Australia Limited (LAL). LAL was formed as a non-profit business firm, independent of government, to raise awareness and generate corporate support for Landcare. Its key mission is to inspire a Landcare ethic among Australians. Since 1989 the Australian Government has funded LAL's administration, but each year the government evaluates the return on its investment in LAL. LAL's resource mobilization strategy has been very successful in that it was able to raise over \$150 million, representing a return of \$17.30 for every dollar invested. In addition, LAL also receives in-kind contributions and media exposure. Major sponsors of Landcare include some of the biggest companies in Australia. These companies see the benefits of their alignment to the Landcare programme. Promotion of Landcare has extended to cereal boxes, postage stamps and the Australian one-dollar Landcare coin. Corporate sponsorships before 1994 mainly involved Landcare education and promotion. By the end of the Decade of Landcare in 2000, around 80% of Australians knew about Landcare. LAL enjoys free media coverage through major communication campaigns, such as National Landcare Week, National Coastcare Week, and World Environment Day. LAL also organizes 'Landcare Awards', which have become a major celebration in recognizing many individuals, groups, communities and organizations active in Landcare and Coastcare. Recently, a new initiative called 'Landcare CarbonSMART'³ was launched, along with campaigns for more sustainable agriculture through 'Landcare Farming' and 'Landcare Gardening' to reduce urban water use.

- The National Landcare Facilitator (NLF). The facilitator serves as a focal point for the Australia-wide network of facilitators and coordinators working with Landcare and other community groups. This position was created in 1990 and was instrumental in the national uptake of Landcare.
- State landcare coordinators. The coordinators are appointed in each state and the Northern Territory, to support the implementation of Landcare and industry group activities in every state. Administratively, state coordinators report to the NLP, which is housed at the Department of Agriculture, Fisheries, and Forestry (DAFF).

The Natural Heritage Trust (1997–2008)

In 1997, the Australian Government launched the Natural Heritage Trust (NHT), a \$3 billion investment to support the implementation of the NLP. The Trust funded thousands of community projects for water quality improvement, vegetation and soil management, reduction of soil erosion and restoration of estuarine health. The key benefits of NHT funded projects were identified:

- increased numbers of skilled resource managers
- enhanced capacity of communities in deciding their future directions
- improved productivity and profitability
- enhanced protection and restoration of biodiversity
- increased numbers of people taking direct and indirect roles in improving natural resource management.

The National Action Plan for Salinity and Water Quality (2000–08)

The National Action Plan for Salinity and Water Quality (NAP) was created in 2000 to bring together efforts of community groups, individual land managers, local businesses and all levels of government in tackling salinity and water quality problems. NAP is a joint national and state/territory programme with a combined commitment of AU\$1.4 billion over seven years. Managed jointly with NHT under the regional delivery model, it has nominated 21 regions as priority areas for investment to mitigate or

Natural regeneration of former farmland
Victoria.



prevent salinity and water-related problems. The Australian Government also established the National Land and Water Resources Audit to conduct a nation-wide assessment of Australia's land, water and biological resources to support sustainability goals.

State Government support for Landcare

Australian state governments have a long history of providing support through research and advisory services to farmers. The main emphasis of research and advisory services was on improving agricultural productivity, although there were efforts for soil conservation, salinity control and farm tree establishment. When Landcare commenced in 1986, the Victorian State government budgeted an initial funding of \$200,000 per year, to provide grants to landcare groups involved in land protection activities. This was considered a 'partnership' investment, aimed at stimulating investments among landcare groups, either through cash or in-kind contributions. Subsequently, some state governments followed the Victorian approach and supported group activities such as leadership training, area planning and promotion. As Landcare developed over the years, more state governments supported landcare groups through regional and state awards, promotions and education programmes.

Local Government involvement

Australia has three tiers of government—national, state and local. Initially, Landcare drew its financial and other support from national and state governments. But, increasingly, local governments have recognized the contribution of community groups and networks in environmental protection, enhancing economic productivity, and promoting community cohesion. Today, many municipal councils are now supporting Landcare groups and networks with office space, administrative backup, meeting rooms, vehicles and funds to employ coordinators.

Some local governments (called shires in rural areas) also assist Landcare operationally. In Victoria, for instance, a shire may hire its machinery at half rates to Landcare groups for reshaping eroded gullies before planting trees and salt-tolerant pasture. The Hindmarsh Shire in western Victoria coordinates an ambitious campaign involving restoration of roadside corridors of indigenous vegetation across 80 kilometres of farmland to connect two major national parks, as well as revegetation demonstrations and broad-scale paddock shelterbelts in cropping zones. It is also involved in protecting about 100 km of the Wimmera River and its wetlands. Since 1998, eleven annual planting weekends have each attracted some 150 metropolitan volunteers and up to 250 local people.

To link communities with their natural assets, a few local councils and river management authorities collect conservation levies from both rural and urban populations to support Landcare. In Western Australia, the Kalannie-Goodlands Shire land owners contributed funds to regional resource conservation efforts.

Development of regional catchment management

As Landcare became a national movement, the national and state governments also developed a catchment management system to involve communities in natural resource management (NRM). There are now 56 NRM regional bodies covering all Australian states and mainland territories, bringing together community and government to plan, finance, oversee and monitor resource management efforts. The national government provides most of its funding for Landcare activities through these bodies. Previously, all funds were channeled through state governments but regional disbursement is now seen as a more suitable way to get funds more directly from federal government to local community groups.

Landcare at work

The principles of Landcare

There are four broad principles that underpin the Landcare movement in Australia.

- Firstly, it is widely recognized that many elements of land degradation are interconnected. For instance, inappropriate management can lead to salinity, soil erosion from wind and water, biodiversity losses and weed invasion. Solutions need to take a holistic approach if good outcomes are to be achieved.
- Secondly, most land degradation problems involve multiple landholdings and affect others downstream or downwind. Therefore landowners, land managers and local communities must work together to introduce more sustainable management systems.
- Thirdly, there is significant skill, knowledge and financial and technical resources available within the whole community. Only broad partnerships between government, community and other bodies with useful resources—such as business and the education system—can overcome land degradation and improve productivity. Government therefore plays an important, but not a dominating role, in improving land management.
- Finally, Landcare recognizes that all members of the community—men, women and children—can play a critical role in land management at all levels. More than 30% of Landcare members are women. Youth also form an important constituency in Landcare. In 2000 there were 200 junior Landcare projects in Victoria alone. Enthusiastic children often help change parental attitudes.

Landcare groups and networks

Landcare groups come in all sizes—from a few landholders in an isolated valley or along a rural road, to 100-strong groups in densely populated areas. Existing public and farmer organizations started some groups, local and state governments catalysed others, as did numerous small circles of neighbours and friends. The defining feature of Landcare is that members feel part of the same community and are therefore more willing to work together for a common cause.

Generally, small Landcare committees oversee operations, apply for project funding and organize communal activities like farm planning workshops or tree planting. Most groups have several formal meetings annually as well as information sessions involving local experts. They run discussion sessions and organize exchange visits to other landcare groups to gain and share knowledge. Many have a paid coordinator providing part-time assistance, arranging meetings and activities and providing management advice.

Increasingly, Landcare groups amalgamate into networks managed by community boards that take a more regional approach to land and water issues and coordinate activities to achieve catchment-wide outcomes. Networks are now the major community link to all levels of government and industry for financial support and information. Many networks gain funding to employ one or more coordinators, allocating their time between the network and group affairs as necessary. Networks also have ready access to regional NRM bodies and are often the accepted avenue for applications of project funding.

Professional support for Landcare

A new professional sector has emerged from diverse backgrounds, often but not necessarily, technically qualified. They are generally called 'Landcare coordinators' or 'facilitators.' Originally, most coordinators were employed directly by Landcare groups and networks, sometimes through private employment agencies. Today, many coordinators are employed directly by regional NRM bodies to service the groups within their region.

Landcare coordinators require new forms of technical and managerial skills, including computer skills, sponsorship marketing, mapping and monitoring, project management, publicity and community education. During the 1990s, there was emphasis on training coordinators and group leaders in team building and facilitation. The aim was to improve group cohesion and personal development through physical and mental team activities, and achieve greater productivity from meetings, consultative planning sessions and conferences. Government departments also provided training to advisory staff in group extension and community development subjects. In 1998, a formal training package (Conservation and Land Management) was developed which included a number of subjects covering capacity building, group facilitation, conflict resolution and a range of technical topics. State and local governments also provide technical advisory staff who work with landcare groups, and research staff relay their results on technical issues directly to local and regional groups.

Despite the presence of paid full-time or part-time coordinators, Landcare mainly relies on landowners and voluntary labour. Government training programmes like Green Corps, which takes unemployed young people into rural areas for six-month periods to restore degraded land have been useful. Some Landcare groups operate on a fee-for-service basis; this community ethos is growing in lifestyle-farming zones close to major cities and towns. Several organizations act as brokers for volunteers seeking conservation experience. Various organizations support Landcare by providing

technical advice on nursery operations, technical assistance in the field and community education. They include Greening Australia, Conservation Volunteers Australia, Men of the Trees, Trees for Life, Tree Project, Greenfleet and various farmers' organizations and environmental councils. Moreover, scores of competent Landcare consultants and contractors operate throughout Australia.

Lobbying for Landcare

Despite solid bipartisan political support, Landcare still needs a strong voice that ensures its presence in key NRM issues. In many cases, Landcare groups rely on connections to government through the Australian Landcare Council (currently under review), whose representatives come from each state and territory, and the National Landcare Facilitator. However, local parliamentarians, regional NRM bodies, farmers' organizations, local governments, water industry and resource bureau professionals, as well as corporate partners, all assist in lobbying for continued government support.

For nine years, the 300 groups in Tasmania, the offshore and smallest state, have had a formal state Landcare association with paid staff. They support member groups, facilitate networking, lobby politicians and departmental executives, get involved in statewide planning and promote the Landcare movement. South Australia also organized a similar group which liaises with political bodies. In Victoria, the Farm Trees and Landcare Association avoids politics, but helps Landcare groups meet legal and insurance requirements. Other states have Landcare forums and councils to link Landcare groups with government personnel and politicians. These lobby groups are needed to constantly remind politicians of their commitments to Landcare.

Popular appeal

Over the years, the rapid growth of mechanized agriculture has meant larger farms and lower population in numerous rural communities. In many areas, these populations are only 10% of their levels in 1900. Recently, it was estimated that only about 5% of the Australian population is involved directly in farming. In these areas, Landcare was seen to have provided vital social benefits, bringing people together and boosting community morale. However, Landcare is also very active in the burgeoning peri-urban or 'lifestyle' zones around major population centres.

Landcare attracted the attention of the Aborigines, the indigenous peoples who are major land managers in Australia's west, north and central areas. They find that Landcare provides a platform for them to express and share their knowledge about the land, its climate, plants and animals, building on their traditions and strong relations with 'Country'⁴. Landcare has appealed less to highly intensive industries like horticulture, which generally operate under more controlled environmental conditions and are less exposed to land degradation issues. These industries are also highly market-oriented and competitive.

Australia's media have responded well, especially print and radio, accelerating

Landcare's acceptance, spreading new ideas and techniques and highlighting opportunities. In urban centres, surveys indicate that two-thirds of the population knows of Landcare and recognizes its logo. It is also known to approximately 90% of the population in rural areas.

Why do politicians support Landcare?

Politicians support Landcare because the results have been efficiently and quickly achieved. Landcare encourages volunteerism, is multi-disciplinary, flexible and promotes direct management of funds by the community. Project funds are given to groups and networks via the regional NRM bodies in each state. Based on a group approach, Landcare has streamlined extension and technology transfer. Moreover, Landcare encourages self-sufficiency, a necessary attribute given that politicians could never assure funding in perpetuity. Finally, Landcare's broad community support has provided opportunities for politicians to be closer to their electorate.

A changing social, political and environmental culture

Technical revolution creates new landscapes

Because of Landcare, Australians look anew at the pressing need for improved land protection through soil conservation, salinity control, weed and pest control, better native vegetation and biodiversity enhancement. Landcare is seen as part of an evolving understanding and approach to better natural resource management (NRM).

Soil conservation programmes in Australia over the last 50 years provide a good example of this evolution. Since the 1930s, soil erosion has become a major political and financial issue in southern Australia, where much of the original native vegetation had been cleared for mining and agriculture. At that time, the focus was on addressing the effects of sheet, streambank and gully erosion, landslips and soil salting on individual properties. Engineering measures to divert or slow down runoff were favoured, such as contour banks, watercourse structures, localized and usually non-indigenous tree belts and 'riparian hardening'. Subsequently, emphasis shifted to mitigating the causes. This involved a more holistic understanding of the causes of soil erosion, which included land clearing on steep slopes, overgrazing, weed and rabbit impacts and the effect of one farmer's management on a neighbouring farm. This in turn shifted the focus to the need for both social and land management practices and saw a more agronomic approach: pasture improvement, minimum-tillage cropping in arable zones prone to wind erosion, tree planting for gully and landslip stabilization and land-class fencing. Cooperation between neighbours within a catchment became important.

Today, besides appraising problems more holistically, landowners better recognize the vital role of deep-rooted perennial vegetation, especially native ecosystems, in protecting soil, lowering water tables to reduce salinity, producing alternative crops, combating weed invasion, providing wildlife recreation and habitat, improving the landscape and reducing water pollution. Landcare also campaigns to control plant and

animal pests, especially rabbits (acclimatized in the 1860s), and coordinates pest reduction operations with land restoration.

Moreover, Australians are tackling the huge challenge of eliminating introduced bushland weeds and restoring native ground flora. Landcare's general preference for indigenous species is laudable, a model for land restoration and gene pool conservation in tropical and Mediterranean environments. Many networks will only establish seedlings sourced from locally collected seed. This ethos has led to establishment of regional seed banks and nurseries, producing a wide range of local-provenance seedlings, including sedges, herbs and ferns. Victoria, for example, has some 150 commercial and community indigenous nurseries.

In the last 20 years innovative nursery and tree planting equipment has emerged, often from workshops of farmers and other Landcarers, including tree planters and seeders (tractor-drawn and manual), tree guards, weed control techniques and protective fencing. Landcare groups or networks sometimes purchase machinery for the members' use.

Today, positive changes in the southern Australian countryside are clearly visible with established indigenous trees and shrubs, fenced-off streams and patches of bush, wildlife corridors, cooperative research trials, managed shelterbelts, community salinity bores and restored wetlands. Much of this is due to the efforts of local Landcare groups, and many roadside signs display the 'caring hands' logo of Landcare.

Surveys, research and monitoring

Another important aspect of Landcare is improving access to technology. Farmer groups directly initiate numerous research projects, and farmers often appear at conferences as joint authors of publications. Usually, Landcare groups identify a problem, start a trial, develop a proposal, and then seek formal technical support.

The Community Grasses Project established a network of land managers and scientists in New South Wales and Victoria to promote greater use of native and exotic perennial grasses, develop low-input technologies, and utilize species that require less water than the present annuals, thereby reducing dryland salinity. At Tragowel, Victoria, landowners, with departmental help, mapped regional soil salinity using modern electromagnetic technology. The project's success has increased landowner awareness of salinity and ownership of solutions. Some Western Australian Landcarers own GIS systems to facilitate regional planning and project management, and are often contracted for their services.

Besides community involvement in planning, Landcare emphasizes monitoring of projects and activities. Community programmes, such as Saltwatch, Watertable Watch and Waterwatch, feed into official databases, allowing observations and readings made by ordinary citizens to be used for scientific mapping and analysis. In Victoria's Goulburn Valley, a network of 1200 farmers from over 30 landcare groups maintains a computerized watertable mapping service, distributing monthly maps and showing regional groundwater levels and potential salinity problems.

Farm planning

Whole-farm planning, now officially called Property Management Planning, has helped induct many landowners into Landcare. Property planning takes into account productivity, environmental elements, fire protection, land classification by hazard categories and relocating fencing and other infrastructure. GIS techniques are increasingly used in mapping. Technical and Further Education (TAFE) colleges run practical courses on the principles and practice of mapping and redesigning properties. These courses are encouraging many farm planners to join a local Landcare group to connect their works with neighbours' conservation and water management initiatives. Victoria's Woody Yaloak Catchment Group, which covers 170 farm and lifestyle properties, has its own GIS neighbourhood project with photographic archives, so that groups of landowners can work together to plan, carry out, record and look back on their activities.

The national perspective

Government's role

Australia's future depends on how landholders, industry and governments share ownership and responsibility for NRM. The Australian Constitution empowers state and territory governments to manage and control natural resources within their borders, encompassing policy development, legislation and programmes and participation in the national effort. Besides managing state lands including national parks and other conservation areas and military reserves, the Australian Government provides national leadership and coordination in:

- developing long-term strategies to address resource issues at all levels, including international obligations and work towards sustainability;
- setting and promoting economic and social frameworks to achieve desired goals;
- providing financial (tax) incentives to encourage Landcare activities;
- leading and funding research and development; and
- increasing public awareness, education and information exchange, and identifying gaps in knowledge.



Local property management planning.



Creating wildlife corridors.

Regional model for programme delivery

The Australian Government has delineated 56 regions and established community-based regional NRM bodies, in some states called catchment management authorities. Each of these bodies prepares and implements integrated resource management plans (regional catchment strategies). These plans take a ‘whole-of-region’ approach to resource management, incorporating environmental, social and economic elements.

Currently, federal and state governments base their programme delivery and identify their investments to achieve defined outcomes through these regional catchment strategies. These are developed with local inputs and based on the best available knowledge of the community. Landcare and other community groups provide communication links, experience, opinion, planning and implementation support or on-ground works. Many Landcare members serve on these regional bodies.

Why is Landcare successful in Australia?

Australian Landcare works because of its compatibility with government systems and its sense of culture and society. It has a number of characteristics, which fit well with Australian views. Many of these characteristics are valuable to the success of Landcare in other countries.

- *Long-term vision.* Landcare stimulates visionary attitudes and activities, and promotes public debate on issues affecting sustainability. This encourages people to take a longer term view of resource use and management.

- *Democratic governance.* Landcare is egalitarian, democratic and respects local knowledge. It has a 'flat' organizational structure, with no complex or unnecessary hierarchy, and is free of corruption.
- *Government supports rather than leads.* Landcare activities attract strong government commitment and support. The community is regarded as comprising positive, responsible, intelligent, cooperative and technically competent individuals capable of making decisions and managing their affairs in collaboration with relevant stakeholders.
- *Local decision making.* Local decision making is paramount, and is followed up with strategic planning and monitoring.
- *Volunteerism.* Most project work involves a high level of volunteer activity from both members and local supporters.
- *Involvement of women and youth.* Women play a vital role. Junior programmes have emerged through partnerships between schools, Landcare groups and corporate sponsors.
- *Landcare is apolitical. Landcare groups are apolitical.* When faced with divisive regional planning and conservation issues, many communities use or create alternative organizations, thereby preserving broad support for Landcare.
- *Flexibility.* No attempt has been made to impose nation-wide rules. Instead, flexibility is encouraged and programmes value the work of volunteers.
- *Broad sectoral support.* Landcare has wide community support from industry, institutions and the media. Networking is endemic and leads to numerous productive partnerships. Farmers' organizations, conservation bodies and all political groupings strongly support Landcare.
- *National community based efforts.* The movement is well served by national community-based bodies such as Greening Australia, providing technical support for revegetation, and Conservation Volunteers Australia, which organizes field works teams.
- *Engaging art and culture.* Landcare works with the cultural community—through art prizes, recordings and local festivals, and provides enjoyable social and recreational outlets for communities.
- *Incentives.* Tax incentives (for farmers) and partnership grants promote collective action.
- *Private sector fund generation.* LAL has generated substantial funds from all community sectors for projects and community education campaigns.
- *Trusts and foundations.* Trusts and foundations are important funding supporters for Landcare, especially for individual local projects.
- *Community enterprises.* Some of the most advanced Landcare groups run community enterprises operating nurseries, providing advisory services, small consultancies and ecotourism ventures. Some enterprises manage an annual budget of AU\$800,000.
- *Creativity.* As new ideas emerge, Landcare creates opportunities and quickly mobilizes resources to initiate pilot projects.

International outreach

The Secretariat for International Landcare (SILC) Inc. was formed in Victoria in 1998 to promote Landcare internationally. It provides a professional gateway for overseas visitors to explore Landcare through innovative tours, seminars and active-learning, field-based training in Australia. SILC's efforts have been important, with its directors delivering papers and promoting Landcare in places as diverse as the Philippines, Canada, Iceland, Fiji, Inner Mongolia and Italy. SILC was an active contributor to international Landcare conferences in Melbourne in 2000 and 2006.

After the tour of South African Government officials to Australia in 1997, AGWEST International, a consulting firm in western Australia organized exchange visits and study tours with South African delegates. AGWEST also provided technical advice, programme design and capacity building, and helped develop institutional arrangements. AGWEST also organized a United Nations Development Programme Study Tour in March 2000, hosting 26 participants from Zimbabwe.

The Australian Centre for International Agricultural Research (ACIAR) has funded a project involving the Department of Primary Industries (Queensland), the University of Queensland, Barung Landcare Group and the World Agroforestry Centre (ICRAF) to support Landcare in the Philippines, where over a decade 600 Landcare groups have formed. Australian consultants have also promoted Landcare-style programmes in several countries, including Vietnam and Argentina.

The Victorian Landcare Network, a coordinators' group, supported a Sri Lankan project, repairing tsunami damage and promoting locally managed ecotourism along the island's southern coastline. In 2006, a team of 13 Australian professionals paid its own way to work in Sri Lanka. They also raised funds from Australian philanthropists to purchase some materials for the work in Sri Lanka. More recently, a non-government organization, Australian Landcare International (ALI), has been set up to facilitate interaction between Australia and other countries interested in Landcare. ALI aims to act as a facilitator to link Australian expertise with other countries, through sisterhood programmes.

Challenges and opportunities for the future of Landcare

Commentators Schnepf (1998) and Croxton (1999) saw Landcare's greatest organizational challenges as the following:

- quest for self-sufficiency
- raising urban involvement
- convincing government to continue using taxation deductions as a Landcare incentive
- ensuring governments do not use Landcare to justify diverting resources currently allocated to land restoration
- increasing the accessibility of indigenous communities to funding programmes
- achieving greater consistency
- maintaining community ownership

- balancing support for regional and local projects
- reconciling paid and unpaid work
- converting the enthusiasm for planning into on-ground results.

Furthermore, the challenge remains in maintaining a good balance between community engagement and government support. Some Landcarers see regional NRM bodies (now a major conduit for federal funding) as excessively authoritarian. The challenge for these bodies is to work effectively with the whole community and all tiers of government, and truly represent regional needs rather than simply executing decentralized governance. Many authorities seem to have adopted traditional high-accountability government processes for managing community funding, despite Landcare's admirable record of transparency. However, this is changing and improving as more community oriented members join the regional boards. Since many problems are regional ones, many Landcarers are positive about regional resource management arrangements that have evolved so rapidly, and are starting to appreciate the creativity many authorities have displayed to improve resource and Landcare management. There is a buoyant atmosphere in many regions!

Importantly, as groups and networks attempt larger, more complex regional projects, they need management training, and even better communications networks, and LAL's website (www.landcareonline.com) helps address this. Moreover, paid employees and contractors are increasingly necessary because of programme scale and complexity. Today, fewer groups and networks employ their coordinators directly, as catchment authorities take over this function, putting coordinators on less flexible conditions. This brings advantages, and perhaps career paths, but can reduce the capacity and independence of groups and can load coordinators with non-Landcare tasks.

Many Australians believe that a key challenge is the exhaustion of Landcare leaders and members—the 'burnout' syndrome. A recent Victorian survey indicates that group numbers have declined lately. There is a need to reinforce human resources of Landcare well into the 21st century. As ever, paid coordinators and facilitators are essential to support regional and local communities and sustain enthusiasm. If government, industry, institutions and the general community can continue to support the vital work of Landcare groups and networks at current levels, greater and greener achievements can be expected.

Recently, the global carbon market opened up new opportunities for Landcare groups to be rewarded for their good work in managing landscapes. Revegetation programmes can produce carbon credits. The severe drought across much of southern Australia cut water supply in both rural and metropolitan centres, and heightened awareness of the fragility of the Australian environment and the consequence of climate change. This led to wider discussion and realization of the need for more robust efforts. Landcare CarbonSMART is a way to link local communities to carbon buyers within and outside Australia. Climate change impacts were unnoticed during the early days of Landcare, but some groups and individuals were well ahead in projecting scenarios and

opportunities. A good example of this is 'Grow West', a long-term (20–50 years) project that combines government policy and funding support, commercial and ethical investment and contract labour with community action to manage large tracks of revegetation activities, with potential incomes from carbon credits, fuelwood and other forest products, biomass energy, ecotourism and land development for recreation. On the issue of carbon credits, regional community-based catchment management programmes could draw support and sponsorship from industries and work more closely with major NRM organizations like the Murray Darling Basin Commission. Finally, this new effort could bring international attention.

Planning well ahead requires communities to analyse their natural resources and regions in broader terms. Resource management cannot be undertaken in isolation; it is not a single-focus issue. Rather, it is intrinsically linked to peoples' daily lives, to local governments, indigenous knowledge systems, corporate needs, regional economies, infrastructure and commercial developments, education and health. Integrated and well-informed local and regional regimes help local communities to respond to present and future challenges.

Conclusion

Australian Landcare has demonstrated profound changes in its socio-cultural fabric, bringing out the innate enthusiasm of people to work together. The impacts on natural resource management are visible and invaluable, yet the greatest achievement of Landcare in Australia is the engagement of multiple stakeholders to achieve a common purpose. The journey is still long, but Australians have taken some of the necessary steps.

The window of opportunity for Landcare is wide open to bring more benefits within Australia, and to influence foreign policies and international aid and development programmes. With more than two decades of experience, Landcare is well-placed to contribute to resolving many environmental and economic challenges in the world.

Notes

- ¹ The Murray-Darling basin covers large parts of New South Wales, Queensland, Victoria and South Australia—one-seventh of Australia.
- ² The first National Landcare Facilitator, Andrew Campbell, detailed the evolution in each state in three reports from 1990–92. His successor, Helen Alexander, did the same from 1993–96. The next incumbent, Lachlan Polkinghorne, presented five reports, each detailing issues and major influences on Landcare. His successor, Coral Love, has delivered five other reports.
- ³ Landcare CarbonSMART is a project initiated by Landcare Australia Limited (LAL), in response to the growing demand by landowners and corporations to work together in an effort to offset carbon emissions. For more information about this project, visit its website: <http://www.carbonsmart.com.au>
- ⁴ 'Country' is what Aborigines call the land.

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Landcare in Germany

Bernd Bluemlein

Introduction

Historically in Germany, environmentalists and farmers have differing ideas about land management. These seemingly opposing groups were constantly challenging each other's views on how land should be managed. For farmers, the land should be utilized to the fullest extent to produce more goods and raise incomes, while environmentalists pushed for conservation of natural resources. In the early 1980s, local politicians and representatives of nature conservation agencies brought these two groups together to discuss their issues. This move was successful and the approach was positively accepted because each group had an equal voice—with no group more powerful than the other. Since then, this multi-stakeholder approach, now referred as 'Landcare' has spread rapidly across rural Germany. The first regional LandCare Association (LCA) was formed in Bavaria in 1986, to enhance cooperation between farmer groups, conservation groups and government agencies.

The reunification of Germany in 1989–90 opened up opportunities for promoting the Landcare concept to partners in the new eastern Federal States. Financial support from the Federal Ministry of Environment was sought to implement a more systematic approach to spreading the Landcare concept widely, and by 2006, 141 regional LCAs

had been formed across Germany. With funding support from local and national governments, prominent leaders of local LCAs lobbied widely for a German Association for Landcare (Deutscher Verband für Landschaftspflege e.V.) or DVL, and in 1993, it was created as a national umbrella association, representing all LCAs across Germany.

Landcare in Germany was initiated in 1986 at the same time as in Australia. But nobody actually brought the Landcare concept into Germany. The idea of bringing farmers and environmentalists together was a necessary response to address their differences. Later, the expression 'Landcare' was, however, adopted from Australia. This originated from pioneer leaders of the three founding groups (farmers, conservationists and politicians) notably Mr Josef Goepfel, who is still the current Chair of the DVL Board. Mr Goepfel thought that Landcare was an attractive name, encompassing the right expression of caring for the land.

Bridging the gap between people and nature

European landscapes have been cultivated for centuries. Extensive cultivation has led to diverse land uses in the countryside, including mountain-meadows, poor soil pastures, hedgerows and orchards. At the same time, indiscriminate use of natural resources has degraded many areas. However, unless carefully cultivated or grazed, these areas will revert to forests, the diverse flora and fauna that have adapted to these extensive farmland habitats will disappear, and regions will lose their attraction to investors and tourists. Thus, tensions existed between preserving these areas for regenerating wildlife habitats and optimizing land use for economic benefits. Eventually, it was recognized that maintaining these diverse cultivated landscapes, called biotopes, could still meet the desired conservation and economic goals of rural communities and the tourism industry. Efforts of LCAs are geared towards meeting these

A typical landscape in central Germany, characterized by rolling hills, arable fields and grassland, pastures on poor soils, interspersed with junipers, hedgerows and woodlands.





Rural landscapes are important for tourism and biodiversity.

Volunteers are helping to keep a juniper heath open for grazing with sheep. These 'poor soil' pastures are very rich in flora and fauna and therefore a core element of Europe's Natura 2000 network of habitats.



twin goals. The LCA's role has more to do with bridging diverse land uses and bringing regional stakeholders together, to coordinate their various activities. For instance, farmers desire more money from their hard work, while the tourism industry yearns to sell a magnificent landscape, and conservationists are concerned about the security of wildlife habitats.

A parallel development also occurred during this period, with the initiation of various land consolidation schemes, which paved the way for conversion of privately owned biotope lands to be managed by the public sector in several areas of western Germany.¹ Within this new management context, local communities were to seek expert advice to better manage these habitats, which are mainly hedgerows, pastures on poor soils and wetland-meadows. This encouraged farmers and government agencies to work together, and favoured promotion of the Landcare approach.

How does German Landcare work?

In general, the aims of Landcare are to:

- create a network of natural habitats to protect the native flora and fauna as well as the biological resources in Germany's cultivated landscapes;
- support environment-friendly land-use systems and regional economic development;
- help farmers earn additional income from conservation and landscape management, and enable them to market regional products; and
- raise awareness of the importance of appropriate land management through the Landcare approach, involving the formal education system (even kindergartens) to ensure that Landcare is mainstreamed in current and future education curriculum and programmes.

The enactment of various land consolidation schemes in the mid 1980s facilitated the transfer of once privately owned biotopes into public hands. Landcare activities therefore initially focused on preservation of public lands. Landcare projects are mainly site or habitat-based, involving several farmers or communities, rather than farm-based. However, LCAs also encourage and support individual farmers to take advantage of applicable agri-environment schemes imposed by the European Union (EU) on private lands. The Agri-Environment Scheme is a strategy integrated into EU's Common Agricultural Policy (CAP), in recognition of the vital role of the environment in pursuing agricultural and economic development. This has two aspects:

- Integration of environmental considerations into CAP rules
- Development of sustainable agricultural practices with clear linkages to environmental conservation and rural development.

Agri-environmental strategies are targeted to enhancing the sustainability of agro-ecosystems. The measures used to integrate environmental concerns into the CAP include environmental requirements (cross-compliance) and incentives, incorporated into market and income policies, as well as targeted environmental interventions within rural development programmes. However, because of the diversity of EU-member countries, agri-environment schemes vary largely between countries and between states within countries.

On the basis of existing concepts developed by conservation experts, for example, federal conservation plans, model project plans and community landscape plans, Landcare coordinators at the regional LCA develop project proposals and apply for subsidies from the regional government through the various agri-environmental schemes. Landcare coordinators also organize and supervise the implementation of activities with local farmers and monitor project outcomes. In all of these processes, coordinators work closely with local communities, conservation groups and government bodies, such as conservation, agriculture, forestry and water management authorities. However, farmers are the key to implementation because they are more familiar with managing their local landscapes.

In Germany, the community also has a profound influence on land management issues. Hence, LCAs work with local communities, involving the local mayor and the

municipal council. They are crucial stakeholders in initiating Landcare projects on public lands, for instance on improving grazing in conservation sites and in watercourse restoration. In some cases, local communities acquire adjacent lands from farmers and landowners to improve the watercourse through Landcare projects. Furthermore, the community helps finance LCA activities. Up to 70% of project money comes from the federal state if the project is on public lands, and the community or landowners (on private land) share the remaining costs.

New strategies with traditional products

Landcare projects have evolved from just planting trees or hedges and grass cutting, to maintaining diverse cultivated landscapes. Later, a new strategy was developed to promote sustainable management of extensive land-use systems, by helping farmers market their quality products, such as apple juice and lamb-meat. These products, often associated with particular regions, are produced through environment-friendly production systems. Farmers are also being assisted with eco-labelling—helping to create and market new ‘nature conservation products’, like lamb-meat from dry limestone pastures, which is a regional speciality. Usually, the LCAs promote marketing activities of lamb in local restaurants, and this really encouraged farmers’ participation. Through this, the LCA has demonstrated that sheep grazing on poor-soil pastures can still be economically profitable. As a result, farmers have become increasingly interested to implement sustainable grazing management strategies to ensure continuous meat production. Also, product expansion, such as apple juice from local orchards, has stimulated some regional economies. This has helped farmers, restaurant owners, local butchers, and the local economy as a whole by increasing cash-flow within the local market.

Funding LCAs

In Germany, the 16 federal states are responsible for the conservation of public landscapes. The departments of Agriculture or Environment within the Federal Government support model conservation projects that cover larger areas. In this case, they incur most of the financial costs, but when the project involves developing tourism, the Department of Trade and Commerce usually provides project funding.

The 16 federal states have different policies and natural resource management strategies; hence funding support to LCAs varies significantly between states. However, although not an explicit policy, many Federal States are funding the administrative cost of LCAs and Landcare projects. In addition, many Landcare projects are funded through CAP’s diverse agri-environmental schemes. Aside from these financing models or subsidies received, LCAs also collect membership fees and donations, and employ ‘eco-sponsoring’ activities. In Germany, private sector sponsorship of initiatives related to

environmental protection has become a trend, and LCAs are often approached as partners to undertake these initiatives. In addition, an innovative resource mobilization strategy sees local government authorities donating fines collected for environmental or related offences to local LCAs. This approach is however limited; it is best negotiated locally, where local authorities have a strong stake in their own area. The advantage is that they can easily observe or monitor the outcomes of such agreement through the performance of local LCAs. Finally, LCAs are charities—membership is open to individuals and groups, including associations, organizations, authorities and business firms. Annual subscription fees range from 5-25 euro for individuals, 10-25 euro for firms and organizations and 0.05-1 euro per citizen for cities and towns.

Key management principles of Landcare in Germany

Since Germany is a federal state with regional governments, some principles are needed to cope with the resultant variety of LCAs. Initially, discussion amongst LCA leaders resulted in an agreement with local partners on the basic principle of parity. Eventually, this became one of the core principles of LCAs. At the DVL, only LCAs with a demonstrated commitment to parity are accepted as members. Subsequently, the LCAs adopted a suite of management principles to guide them in the conduct of day-to-day activities and implementation of Landcare projects.

Parity

Each participating interest group (conservationists, farmers and local politicians) is equally represented in the board of LCAs, which are elected by its members. This balanced structure enhances trust amongst the different participating groups and is responsible for the success of LCAs.

Voluntary participation

LCAs rely on voluntary participation, which is crucial for long-term success and sustainability. LCAs act upon the requests from landowners, including local communities, private persons or organizations. The strength of LCAs lies in their ability to work outside normal government limits.

Regional connection

No landscape looks the same—each habitat requires a different management approach. LCAs consider regional differences and focus efforts on the preservation of specific landscapes. Instead of uniformity, the LCAs promote regional diversity, which forms the basis for long-term attractiveness for recreation and tourism. An LCA's working area usually covers one district or one natural region, for example the Thuringian Forest, an upland region of about 3000 km².

Membership

Membership includes local communities, farmers, landowners, conservationists—everyone who is interested in maintaining a healthy landscape and rich biodiversity.

Legal status

The LCAs are independent and registered as non-profit organizations serving the public interest.

Advisory panel

An advisory panel of experts is attached to each regional LCA and provides the board with specialist advice. The local LCA decides on the composition of the panel and ensures it is multidisciplinary.

Staff

The number of staff working in LCAs depends on the size of the respective working-area but averages about two Landcare coordinators per district. These coordinators are usually professionals with specific disciplinary expertise, such as biologists, farmers, foresters, geographers and other resource managers. Their main tasks are to coordinate Landcare projects on public lands, farmlands and privately owned non-farmlands.

Funding

LCA activities are supported to varying degrees by local communities and regional governments. Additional revenues are also generated from membership fees. Generally, the LCA pays its own staff, but in some federal states, staff members are partly paid by regional governments. Funding for specific projects is being sought from various sources, such as the EU agri-environment schemes.

DVL—the national umbrella organization for Landcare

As mentioned earlier, the German Association for Landcare or DVL was formed as an umbrella organization, representing all LCAs from the local to the national level. The DVL is autonomous and is privately managed with its own Board and Executive Committee, although its operations are partly funded by Federal and regional governments through projects. The DVL has become a hub for technical and market information, and supports the formation of new LCAs. Only LCAs can become members of DVL, but they decide on their membership, as they are legally autonomous associations themselves. However, virtually all LCAs are members of the DVL. The DVL's membership fees are minimal and do not substantially support its operational costs. The DVL Board also adopts the principles of parity where various interest groups are represented, including conservationists, farmers and communities.

In coordination with local LCAs, the DVL carries out model Landcare projects. An example of these projects is the dissemination of best practice knowledge in planting hedgerows, constructing dry stone dykes and other landscape features, and establishing long-distance biotope networks. It also serves as consultant to the Federal Government and state departments on natural resource management issues. The DVL is dealing with 16 different state legislations, with bureaucratic layers that are also complex and highly variable between states. This is very challenging for DVL, particularly in securing funding for targeted activities and in contracting projects under the EU-CAP agri-environment schemes.

The DVL also supports regional marketing strategies. Some 1000 marketing groups received various degrees of facilitation from DVL, and remain loosely linked with each other. An internet-based platform, called REGINET, was established by DVL and other partners to improve networking among these marketing and producer groups. The website (www.reginet.de) is open to all regional projects in Germany, and by the end of 2005, about 450 initiatives were listed on the site.

Political engagement

German farmers depend on the political framework outlined by the EU in the Common Agricultural Policy (CAP). In 2001, expenditures under the CAP averaged 333 euro per hectare of agricultural land in the EU, which, for example, made up about half of an average Bavarian farmer's income.

EU subsidies have significantly contributed to the success of the Bavarian Landcare Programme. On average, half of the money that supports Landcare projects comes from EU subsidies, accessed through various agri-environment schemes. Experience shows that it has become easier for communities and farmers to access these schemes when they get expert advice from their LCAs. In the past, the CAP favoured intensive agricultural regions, with the majority of the subsidies being directed to the largest and most productive farms, not to agri-environmental activities. Because of this, there were opposing views on the CAP. Public opinion does not favour subsidies for large, production-oriented farms, as they are seen to contribute to environmental problems, such as poor air and water quality or loss of biodiversity. For this reason, German Landcare supported the proposal to reform the EU-CAP, to decouple the subsidies from pure agricultural production, and link them to environmental and sustainable rural development outcomes. Advocacy efforts have been vigorously pursued since 2005, and some subsidies are now linked to the environmental objectives of the EU.

This experience shows the essential mix of working locally for the best interest of local communities and working at the national level to access broader political and financial support. Historically, people were antagonistic to government policies that favour big landowners, but this is changing now. With Landcare, people have realized that it is important to work with government, as it holds the country's machinery and financial resources that can be effectively harnessed to achieve their objectives.

International cooperation

International exchanges of ideas and views can help to progress German Landcare. The LCAs could learn a lot from other Landcare initiatives around the world. Within the EU community, contacts have been maintained with similar organizations, including the Farming and Wildlife Advisory Group (FWAG) in the United Kingdom, which has a lot of practical experience giving whole-farm advice to farmers, a programme that is quite feasible in Germany.

The Natura 2000 Network is an ecological network for natural areas designed to conserve Europe's rich but vulnerable habitats and species. The network includes over 20,000 sites from all 25 member states of the EU. Collectively, they cover almost a fifth of Europe's land and water. In many parts of Germany, Landcare Associations are involved in Natura 2000 sites; in some cases they do this through cross-border projects with Poland, the Czech Republic, Belgium and Luxembourg.

Further, the DVL and local LCAs are engaged in sharing knowledge of livestock management in different habitats, and aim to promote this as a cost-efficient option to nature conservation agencies in Germany. The DVL is also sharing management experiences from several other Natura 2000 projects, including habitat management and protecting species such as beavers, pearl-mussels and wetland birds. The Biodiversity Action Plan used in the UK, which highlights management options of key species and habitats found on farms, also applies well to Germany.

An agreement signed by several organizations at a DVL conference in June 2004 illustrates the willingness to share best practices and ideas between countries. Knowledge sharing and network building are keys for expanding Landcare in the European landscape.

Lessons learned

The activities of LCA and DVL evolved through experiential learning. Astute leaders of LCAs and the DVL were at the same time developing their ability to deal with complex issues, both technically and organizationally. With an open attitude, the challenges and issues were surmounted and some important lessons were learned.

- The German Association for Landcare (DVL) has represented the LCAs' voice and power at the national level. National level structures are important for initiating larger scale efforts. Without such a well organized entity at the national level, the efforts of LCAs would not have been so easily recognized by the state and federal governments.
- Local leadership, staff competence and effective governance structures of LCAs and the DVL are non-negotiable factors to success.
- Parity, voluntary participation and regional connections are key characteristics of the LCA-concept with a proven record of success. Maintaining these characteristics however requires continued investment in training and capacity building of Landcare professionals and members.

- Generating public-government support for Landcare is a demanding task since the 16 federal states have different policies and natural resource management strategies. However, despite such a difficulty, these state governments have supported LCA projects and activities.
- Political engagement is also important, although it can be complicated and can lead to co-optation. This requires strong personalities and principle-centred leadership. Both sides can benefit from political engagement and this can contribute significantly to bringing the folds of government closer to the people.

Concluding comments

During the last 20 years, Landcare in Germany has developed into a powerful force that has catalysed positive changes in the way agricultural landscapes and conservation areas are currently managed, particularly in less favoured areas. The greatest strength of the DVL is in its altruistic leadership and the commitment and untiring efforts of numerous farming communities that share a common purpose. More than 20,000 farmers throughout Germany now work together within their LCA structures to maintain the natural beauty and ecological capital of their regions. This represents strong social capital where effective government mechanisms, such as payments for environmental services by the EU agri-environment schemes, can be properly channelled to deserving communities and individuals. Governments at different levels have provided support and encouragement, without which Landcare could not have reached a level that has brought significant impacts on German rural land.

Notes

- ¹ These biotopes include both extensively used and under-utilized lands with high importance for certain species including wetlands, natural woodlands, dry limestone grasslands and hedgerows.

4

Landcare in New Zealand

Don Ross

Landcare has been operating in rural New Zealand since the early 1990s. Now, there are more than 600 groups operating under different names—landcare, coastcare, streamcare, lakecare and resource care. The New Zealand Landcare Trust implements Landcare activities and projects, supported to varying degrees by several regional councils. New Zealand has a range of environmental issues that need sustainable solutions including biodiversity decline, prevalence of animal and plant pests, soil erosion, and declining water quality and quantity. Landcare and other local groups provide voluntary efforts to address these issues. Experience has shown that Landcare creates a learning culture, with farmers forming into self-reliant Landcare groups to plan, negotiate and implement sustainable land management practices.

Enabling policy environment

As the country's cornerstone industry, farming is deeply ingrained in New Zealand society. Maintaining viability of farming systems and the health of the natural environment are thus primordial for sustaining the overall economy. However, as with elsewhere in the developed world, there is growing concern on sustainable use of natural resources and the impacts of rapid economic growth on the natural environment.¹ The challenge that remains is making a transition to more sustainable systems in a non-subsidized production environment.

In October 1991, the Resource Management Act (RMA) came into force with the purpose of promoting sustainable management of natural and physical resources. Designed to protect the environment with greater economic efficiency and public

accountability, the RMA is considered a landmark legislation. The guiding principles of RMA are:

- enabling people and communities to provide for social and economic well-being;
- sustaining the potential of natural and physical resources to meet the needs of future generations;
- safeguarding the life-supporting capacity of air, water, soil and ecosystems; and
- avoiding, remedying, or mitigating any adverse effects of activities on the environment.

The RMA was a significant shift from prescriptive to enabling legislation, recognizing that formal legal processes are by no means the only way to achieve sustainable natural resources management. The Act was based on a growing realization that modern agricultural practices are unsustainable in their present form, and there is urgency to move towards more sustainable systems. Furthermore, the Act was conceived with holistic objectives and targeted outcomes, with instruments that respond to the issues, priorities and values of New Zealand's multicultural communities. It encourages local communities and individuals to contribute to crafting their desired future for the environment. While the RMA provides guidance with respect to national priorities, it generally encourages greater community participation, leaving important decisions in the hands of the local people, especially through regional councils and local authorities. Furthermore, it was recognized that environmental improvements are not only achieved through legislative reforms, but also from people's leadership, vision, cooperation and kaupapa.²

However, after more than 15 years of the RMA, many issues remain unsolved and varying opinions on their success are widespread. The law was conceived to shape New Zealand's 'clean and green' image, but the merits of the law remained a subject of ongoing, sometimes heated public debate. Significant current issues remain, including agriculture intensification, biodiversity decline, soil erosion, plant and animal pest infestation, and declining water quality and quantity. Along with these issues many economic and social factors need attention: economic and social pressures; decreasing farm viability and continuing cost-price squeeze; unavailability of rural farm labour, as young people move to urban centres and away from farming; ageing rural populations; and complacency on land degradation issues.

In New Zealand, there were fundamental difficulties in managing natural resources sustainably compared to managing agricultural production. Policy institutions were productivity-focused, with a policy agenda that prioritized 'free trade' initiatives through strict application of user pay systems. Traditional extension was unable to deliver sustainable outcomes as it focused more on achieving production goals and delivering private benefits³.

However, in retrospect, rural New Zealand has a 'land caring' culture, notably manifested by catchment and rabbit control farmer groups, dating back to the 1950s. The removal of farming subsidies in the 1980s brought significant changes within government agencies and rural communities. Subsequently, enabling legislations were formulated, creating synergies with the community-led principles of Landcare.

With Landcare, a learning culture was created, improving the methods of knowledge

sharing between and among local communities, government agencies and private institutions, not only about social and environmental issues but also about local innovations.

Looking over the shoulder

New Zealand was fortunate to have learned from the Australian Landcare experience. In the late 1980s, New Zealand's Rabbit and Land Management Programme (RLMP), an integrated initiative for combatting rabbit infestation in severely affected inland areas of the South Island high country was underway. The programme focused on ways of changing the way rabbits were managed. This was imposed on rural communities following the removal of subsidies in the mid 1980s.

In 1990, the government of New Zealand commissioned a group from the RLMP⁴ to visit Australia and learn from Landcare. The team evaluated Landcare programmes in Victoria, New South Wales and South Australia. The report described Landcare as a philosophy where groups of local people work together to prevent further degradation of the land and develop more sustainable land-use practices. The report noted the following benefits to landholder involvement in Landcare:

- increased understanding of problems and solutions through group decision and support;
- enhanced social focus in rural communities; and
- improved and constructive partnerships with state agencies.

Furthermore, the report concluded that the initiative for Landcare must come from landholders, not from government agencies. The report stimulated interest on the prospects of sustainable resource management in New Zealand. The low productivity of agricultural lands in some areas, decreasing wool prices in world markets, climate variability, uneconomically viable farm size and structure, rising debt levels and high costs of rabbit management meant that many families were heavily burdened. Against this background, the Landcare concept was perceived as a vehicle to articulate the need for change.

Subsequently, two organized tour groups evaluated Australian Landcare⁵, while some individuals also visited to see it for themselves. In addition, prominent Australian Landcare practitioners were invited to New Zealand. Reports from both tours noted the role of community participation in Landcare, and stressed the need for community-led and initiated Landcare.

Broadly speaking, the RLMP laid down the foundation for Landcare in New Zealand at a time when government leadership was deeply immersed in economic and environmental issues. Apparently in this case, the tensions created between meeting economic and environmental goals simultaneously, created an opportunity for action. Even so, since the Landcare concept was relatively new and quite different, some farmers, communities and professionals struggled with understanding its applicability within their own setting. The idea of landscape and natural resource management became an issue for land users whose social and economic goals could not be compromised. This was particularly challenging for Landcare advocates at that time.

The early days of Landcare

In New Zealand, Landcare evolved primarily through community-led action, with fervent desires to address issues effectively in small ways. The level of support of central, regional or local government in no way resembled that in Australia. In fact, there are few Landcare initiatives or investments from within government agencies. Despite this, around 600 Landcare groups exist in New Zealand, with hubs of activities that are aligned to encourage and support various communities.

The early Landcare groups in the 1990s were mostly formed in the South Island high country, with great success as these groups were encouraged and supported through the RLMP. However, when the programme ended in 1995, there was little support left for Landcare groups; only the two North Island regional councils continued their support at that time. However, the value of Landcare in promoting sustainable management through the RLMP had been recognized particularly in the non-government sector. Concern that lack of support would slow down the momentum of landcare groups, three non-government land user organizations—Federated Farmers, Rural Women New Zealand and the Fish and Game Council—agreed to advocate for government support. Together with Graham Robertson, then President of Federated Farmers, leaders of the two other organizations approached the Minister for Environment to seek continued support for Landcare, and successfully established a support mechanism for landcare groups.

In July 1996, the government announced funding for the establishment of the New Zealand Landcare Trust as part of its Sustainable Land Management Strategy, which was launched at that time. Funding of \$NZ250,000 was made available in the first year, which increased to \$400,000 by the third year. Several regional councils have since supported landcare groups at varying levels, realizing that Landcare groups can help achieve the community goals they are seeking. Involvement from central government agencies had mainly been for consultation purposes.

The New Zealand Landcare Trust—Nga Matapopore Whenua o Aotearoa

‘New Zealand Landcare Trust’ was translated into the Maori language as ‘those who prize and take care of the land in New Zealand’.⁶ Upon the establishment of the Trust in 1996, the Trustees⁷ set the following objectives that formed the basis for setting priorities and guiding future activities:

- training for landcare, particularly facilitation and leadership skills;
- supporting and encouraging landcare groups;
- utilizing research outputs more effectively;
- increasing coordination and collaboration in knowledge exchange; and
- creating an effective and efficient organizational structure.

Don Ross, a vertebrate ecologist for 20 years and manager of the Rabbit and Land Management Programme from 1989–95 was appointed as the founding chief executive officer of the New Zealand Landcare Trust. The Board of Trustees was composed of seven

NZ farmers discussing proposed local weed management plans.



non-governmental organizations (NGOs), representing production, recreation and environmental interests. The Board recognized the value of highly skilled coordinators to work with community groups, and significant investment was put into coordinator skills development.

By 2007, the Trust had grown its annual operational budget to around \$1 million. Most of the investment is in maintaining the network of skilled staff to effectively work with Landcare groups. Another \$1.5 million was invested through the Trust in Landcare group projects generated from a range of government funded programmes. The Trust has been well received by local communities, particularly because it is an independent and a trusted NGO. The staff are excellent facilitators with skills required to help community groups plan, seek resources and implement programmes. At this time, rural communities were observed to be constantly searching for relevant information through the facilitators.

A major contributor to the growth of the Trust is a company called Transpower New Zealand Limited. Transpower maintains the national electricity grid. The company found the Trust an ideal partner for channelling corporate support to rural communities. Transpower recognized that it has a responsibility to act as a good corporate citizen. Its Community Relations Programme emphasizes commitment to the environment, the community, education and research, and to its own staff. In November 2002, Transpower was named as a runner-up in the Business Ethics category of the Deloitte/Management Magazine Top 200 awards.

The Trust and Transpower have together developed a grants programme that transfers small amounts of funding to landcare groups. In six years, more than 300 projects have been funded. The \$650,000 invested has leveraged additional resources exceeding \$5 million. The majority of landcare groups report that the grants have been a motivation for community action.

Realities and challenges

Engaging people is the Trust's major challenge. The idea of collective action through Landcare type approaches does not easily appeal to many independent private land

managers in New Zealand. Some land managers fail to realize the impending effects of environmental degradation on their properties. This attitude has a political basis—previous agricultural policies encouraged and supported high-input and environmentally impacting agricultural systems. The challenge is to find strategies that support the development of sustainable agricultural systems and innovative approaches that engage people, raise awareness and encourage local action.

There is a misconception that the solution to sustainability issues lies in the provision of technical information. This worked well in the era of subsidized production where economic benefits were quickly realized. However, in the sustainability era where timeframes are much longer, continuous provision of technical information is needed to influence land manager behaviour. The current issues in the North Island hill country illustrate this. Hill country erosion has been well understood for decades, but change is not taking place the way it should. It was noted that the barrier to progress was not the lack of information, but the lack of effective mechanisms for knowledge transfer. Millions of dollars were invested in research, but researchers retain most of the knowledge generated.

Currently, the Trust does not have the human and financial resources to have a nationwide coverage. Maximizing impact from available funding resources has been the priority over the years. To minimize overheads, staff members work from their homes and Trustee member organizations provide technical inputs. The Trust's low-cost and maximum impact model takes commitment beyond what one can expect from the staff, but their rewards are the results manifested on the ground. Nonetheless, the Trust has the potential to make significant progress over the next years if it is adequately resourced.

Focus of the NZ Landcare Trust

The Trust uses a number of mechanisms to engage more participation among local communities. Usually, activities or projects under the Trust are carried out through its member organizations. This is advantageous, because these organizations are diverse and have a wide membership, and all have a keen interest in sustainable land management. The Trust revolves around seven key areas of action:

1. Formation and facilitation of landcare groups

Landcare groups first emerged in New Zealand in the early 1990s, primarily led by the farming community through the South Island High Country Branch of Federated Farmers. Farmers were attracted by the concepts of grassroots leadership, self-help governance supported through facilitation, human resource development rather than technology transfer, wider stakeholder participation and cooperative efforts at the local community level. Landcare has raised awareness on resource management challenges among rural communities and agencies, and many have recognized the opportunity and potential that landcare groups bring. There are numerous examples of successful landcare groups involved in community-led projects around New Zealand. Landcare

groups come under many names and guises, but generally, they refer to groups of people collectively dealing with sustainable land management issues. Landcare groups are ideal vehicles for agencies to interact with, and generate community ownership and commitment, as in the case of Mangapiko Stream Care.

Mangapiko Stream Care

The Mangapiko Stream is in Waikato between Pirongia and Te Awamutu, where rural and urban development has increased the volume of contaminants entering the waterways in streams such as the Mangapiko. The vision for this group is for community members, primarily farmers in the Mangapiko catchment, to care about and actively participate in the restoration, enhancement and protection of their local stream environment. Beyond that, a range of NGOs, local and regional government agencies, schools, industry and conservation groups has also contributed and assisted.

As a result of their efforts, five kilometres of the stream has had willows removed and been fenced and planted with native species. Currently there are almost 1000 new plants in the ground and planting is continuing. Challenges included being able to plant as fast as the willows were removed!

The NZ Landcare Trust facilitated a field day in June 2007 at the restoration site to highlight project outcomes and encourage sustainable land management on a catchment-wide scale. Members of the Streamcare group, Environment Waikato, Waipa District Council, Biodiversity Advice Waikato, Te Awamutu College, Fonterra and interested members of the public attended.

The site is now also a dog recreation area. The local council levelled an area, removed weeds and re-grassed and fenced the stream. A local school, Sacred Heart College, planted more than 2000 native trees and the Waikato branch of the Tree Crops Association provided 40 heritage fruit, nut and nectar trees and 40 olive trees for land outside the fenced riparian zone. Group efforts have demonstrated the value of collaboration in achieving sound environmental outcomes.

2. Linking knowledge to action

Increasing human population and modern consumption patterns are placing extreme pressures on the natural capital. Production of food and fibre, as well as provision of environmental services, relies heavily on this natural capital. The Trust works to increase community skills and knowledge, and encourages participatory research so that farmers directly benefit from scientific knowledge. The Trust has developed a strong network among Trustee member organizations and various agencies (such as central and local government, research, universities, NGOs, producer boards and industry groups) involved in land management issues. The Trust supports participatory research activities to bring researchers closer to local communities. Researchers are comfortable with this participatory working environment, and when facilitated programmes are implemented the results are generally highly effective such as in the following wood production project.

Sustainable Management Options for Wood Production from Regenerating Totara⁸

The Northland Totara Working Group was formally established in September 2006 to support and promote research and technology transfer in the productive management of totara from both naturally regenerating stands and plantations.

The group is coordinated by the NZ Landcare Trust. Current members include landowners, the New Zealand Farm Forestry Association, the Northland Regional Council, wood millers and processors, Tane's Tree Trust, the New Zealand Forest Owners Association and Ensis.

Totara regenerates naturally on farmland in many regions throughout New Zealand, particularly Northland. Its ability to establish in a paddock and its compatibility with livestock farming means it has truly unique potential for widespread integration into our production landscape. Typically, totara is regenerating naturally on less productive hill slopes and riparian areas, where it often fills a soil conservation role and supplies shading crucial to water quality enhancement. However, regenerating totara is so widespread in Northland that many landowners consider it a weed.

The working group aims to change that regrowth into an asset for landowners and the country. Its objectives are to quantify the resource of naturally regenerating totara; to establish demonstration trials, evaluating a range of thinning and pruning options; to determine wood qualities and uses of farm-grown trees; to investigate the feasibility of developing a supply chain; and to identify and overcome hindrances to sustainably managing and regenerating totara.

3. Promoting local solutions to local problems

Local people are experiencing many social and economic changes within and beyond their immediate communities. In order for local people to catalyse change rather than be its victims, they must be equipped to address myriad issues that affect their local region, and reflect these into the broader picture. They need both local and national-level information that has implications on their decisions. The Trust works in partnership with community groups to promote informed decision making, to ensure that local innovations are developed to resolved local problems, such as river management.

Mararoa River Restoration and Enhancement Project

The Lower Mararoa River in the Te Anau Basin in Southland is severely infested with willow, gorse and broom. Land is at severe flooding risk with considerable soil erosion occurring. Also, there is loss of in-stream and riparian ecological values and weed infestation of the neighbouring iconic lakes and park. The local community, led by the Te Anau Landcare Trust, Environment Southland and the NZ Landcare Trust, developed a plan of action to coordinate and implement the restoration project.

The plan is in two parts. One part entails a multi-year capital works programme (managed by Environment Southland) to clear the infestation and develop an effective floodway. The second part involves planning enhancements managed for the funding agencies and the Lower Mararoa River Restoration Working Party by the NZ Landcare Trust, and preparing final proposals for the rehabilitation of the river environment.

Very significant progress has been made in the enhancement phase. A blueprint for enhancement was agreed to in principle at a public meeting. This should be seen as a first step in achieving outcomes for recreation and access, and enhanced landscape and wildlife values. Anecdotal reports indicate that there is already increased public use through the area. Some of the plans are now being put into action, with good results. There has been excellent coverage in local media. An open day where information on the enhancement project was also displayed was well attended. Regular newsletters promote the work involved in the project, and keep the local community and stakeholders informed.

4. Managing water resources

Abundant and clean water is part of New Zealand's heritage. Managing waterways to make sure they stay in good state is a primary task of the citizens. Rivers and lakes are valuable for many reasons—drinking water, the environment, irrigation, energy, cultural values, recreation and tourism. Judicious use of water resources is of paramount importance, and even local communities are actively involved in the whole debate of sustainable water management. The majority of NZ Landcare Trust projects are focussed on water quality and availability.

Wetland re-establishment in the Waikato

Two partnership projects to recreate rare restiad wetlands in the Waikato were completed recently, between farmers, local, regional and central government organizations and research providers. In recent years, public awareness of the ecological function, social and economic benefits of wetlands has greatly increased in New Zealand

Highlights over the last year include the development of restiad wetlands in former areas of pasture alongside two of the Waikato region's iconic peat lakes (Lake Komakorau and Lake Serpentine East). Comprehensive monitoring and management plans have been developed to determine the best and most cost-effective method of re-creating restiad wetlands in farmed areas. Initial monitoring showed that the unique peat-building restiad plants are successfully establishing and that the overall condition of the wetlands is predicted to increase by 100% over the next nine years. Over time these plants will 'grow' peat—critical in a region where the peat substrate is subsiding due to agriculture. Other volunteers are planting more native species to provide a generous buffer between the farm and the peat lake. This buffer will help absorb surface flows of nutrients and assist with trapping sediments.

Plantings of associated native species have also been established, and these combined with the restiad wetland plants will help buffer the lakes from the impacts of the surrounding farmlands. Additionally, a framework for interpretation was developed for both wetlands, to enable visiting and learning experiences for the wider community.

Wetland advocacy has been an important part of this project and field trips have taken children and adults to various sites to experience wetlands 'hands on'. Presentations have been made at conferences and forums to raise public awareness of the project and to enhance understanding and appreciation of wetlands. A key project output has been the development of a website.

5. Integrated Catchment Management

The Integrated Catchment Management (ICM) approach brings together those involved in primary production, environmental conservation, land and water planning, research, environmental rehabilitation and other sectors involved in natural resource management at a catchment scale. ICM is based on a systematic effort to understand, through interpretation and analysis, the linkages between ecosystems, resources and people. It is a strategic approach used to manage environmental issues through integration of diverse perspectives, disciplines and practices. The NZ Landcare Trust is involved in various projects using an integrated approach. One of the key ICM projects is described below.

Community approach to catchment improvement by the Aorere Catchment Group

The Aorere Catchment Project has a key focus of understanding water quality issues (sparked by aquaculture industry concerns) and their impact on wider catchment/farming sustainability. Local dairy farmers formed the Aorere Catchment Management Group and meet regularly to develop strategic directives and implement project milestones. The group works with a project team of NZ Landcare Trust staff. A communications strategy has also been drawn up utilizing NZ Landcare Trust expertise. The plan will assist in effectively communicating project objectives.

The project has developed a register of related projects and publications. A detailed science and research scoping report for the catchment was developed through the NZ Landcare Trust. This identified the need for initial modelling of waterway pollutants and their impacts on surrounding coastal waters.

This modelling was undertaken by Wriggle Coastal Management which has developed a high calibre computer model. This clearly shows the relative impacts of Aorere pollutants on Ruataniwha Estuary, Golden Bay and existing and future mussel beds.

Following on from the initial theme of 'understanding the issues', a dairy farming family community survey was developed using NZ Landcare Trust knowledge of the Aorere catchment and the surveying experience of a rural sociologist. Interviews covered background/census questions, issues facing dairy farming, perceived health of waterways, knowledge of actions for waterway health (including what is being implemented and how much confidence farmers have in these measures), information and advice and monitoring change.

6. Promoting the principles and practices of sustainable development

Achieving sustainable development involves different ways of thinking and working. It requires looking after people; noting their long-term views; taking account of the social, economic, environmental and cultural effects of decisions; and encouraging participation and partnerships. Sustainable development will only be achieved with the involvement of all stakeholders, including governments, agencies, NGOs, private sector and community groups. This will require major behavioural and cultural change, and debate may not be acceptable to many.

Recently fenced stream to reduce water pollution from stock.



Starborough Flaxbourne Soil Conservation Group

In the past several decades, farmers in the Starborough Flaxbourne district experienced seven years of exceptionally dry weather. Farms were drastically de-stocked, and many were pushed into financial instability. Many farmers felt that continued stocking in the dry years had reduced plant cover, opening up the soil surface to wind erosion. Wind during these years was relentless, and sunny face slopes lost valuable topsoil. In these areas, subsoil layers exposed to rainfall were easily eroded. There was limited agreement about the solution. Some highlighted the need for more fencing to enable resting of eroded areas. Others considered that cattle were more lenient on pasture cover. They articulated an increase in the extent of degraded soils. Some could identify eroded slopes that in their youth were covered with silver tussock. Such a rapid transition is not common in other dry environments in the South Island. 'Landscape amnesia' explains how societies may not notice serious degradation of their landscapes when the rate is so slow that a generation cannot see a change.

The primary question of the Starborough/Flaxbourne Sustainable Farming Fund Project was: What viable options are there to arrest erosion and restore these areas to a sustainable production system and what alternative land uses exist? A study report concluded that the first two years of setting up the focus farms has highlighted how important it is to adopt stock policies that farm the strengths of this environment rather than the weaknesses. Climate records show the study area has had periods of clement summers followed by years of consecutive drought. Farmers may differ in the perception of what a normal year is, depending on when they started their farming careers. However, the region does have some strength. The early finishing of lambs is possible and farms that have achieved sales before Christmas have received a substantial premium. To achieve this there needs to be strong planning and an emphasis on preparedness in this environment.

Changing the capital structure depends on 'preparedness' of farm families. Farms that spiral into debt during consecutive droughts will be less likely to re-invest in the high quality feeding systems required to maximize revenue when conditions are favourable. Conversely, farms that can buck this spiral have the opportunity to make the transition to the natural capital system that is an objective of this project. Saltbush, while in the early stage of assessment, may provide the quality feed needed in autumn at a reasonable price provided fencing costs are kept down, and yields are at the higher end of the spectrum.

The project has generated considerable interest among the farming community particularly from the drier east coast communities of both the North and South Island. Group Chair Doug Avery has been regularly contacted by farmers from outside the district on his innovative farming systems, particularly those based around using lucerne in dry areas of New Zealand. This emphasises the value of community-led projects in transferring knowledge. A major finding of the plant work to date has been highly successful establishment on one property, and far from successful establishment on the other two. This highlights the ultimate significance of the human factor in sustainable farming of dry country in south-eastern Marlborough.

7. Communication

The Trust has a communications strategy which includes printed articles about local farming, joint newsletters with regional councils, regional and project newsletters, alliances with industry and commercial publications, Trustee publications, displays at field days and conferences and interviews on radio and TV. The Trust also maintains a popular website and newsletter⁹ for information and knowledge sharing.

A major effort by the Trust in 2002 was partnering in the annual national agricultural field days in Hamilton that run over four days with 130,000 people

attending. The premier feature was 'Landcare action on the ground', and several landcare group members and various organizations and agencies supported the Trust's efforts. The exposure that the Trust received from field days has created a new level of interest in Landcare and sustainable land use in this country.

Conclusion

Why is Landcare important in the New Zealand context?

- Landcare is a community grassroots approach to environmental challenges and sustainable land use. Support for landcare and stewardship is widespread, and growing where NZ Landcare Trust support and encouragement is active.
- Landcare in New Zealand represents a relatively untapped potential to build strong relationships between the land user community, Maori (iwi) groups, all levels of government, research, the commercial sector, NGOs and voluntary groups.
- Landcare represents opportunities to build effective partnerships. Group processes create peer pressure and leverage to secure sustainable outcomes.
- Landcare represents a connection between private land managers and public benefit, and is, when supported by an enabling regulatory framework, the only real opportunity to ensure that land and water, flora and fauna are maintained and enhanced for present and future generations.
- Landcare raises community awareness and generates critical thinking and effective responses on sustainability issues that have had a major impact on sustainable development in rural New Zealand.
- Landcare creates a self-reliant learning opportunity, encouraging landowners to meet their responsibilities in pursuing a balanced approach to environmental, economic and social sustainability.
- Landcare engages the community and builds capacity to understand the wider perspective of sustainable development, with peer pressure processes, challenging examples of short-term goals.
- Group processes are effective in building capacity and the collective action and peer pressure generated through group dynamics is a major contributor to sustainable development in New Zealand. Importantly it reaches the grassroots who are the people that ultimately make the difference.
- The future success of a grassroots approach will only be realized through effective and durable partnerships based on trust.
- The New Zealand Landcare Trust has been involved in a range of initiatives that supports the above statements. Experience shows that Landcare has and will continue to raise awareness, engage communities and significantly contribute to behavioural change, all resulting in sustainable land use and development in New Zealand.

In developing a vision for the future the Trust takes into account the following concepts and guidelines.

- Grassroots communities are all important. The Trust works with the people who are on the land. A review conducted in 2000 acknowledged the importance of the Trust's independence and standing.
- Significance of devolving decision making to the lowest level of competence, and the role that effective community–government and other partnerships play.
- Respect by land users for their peers and the role that landcare plays in bringing them together.
- Need to raise awareness, engage land users and foster behaviour change.

The New Zealand Landcare Trust is the only national NGO working with the land user community, encouraging and supporting landcare groups through facilitation and knowledge brokering. The Trust recognizes that government support is crucial to achieving success, but the credibility and community trust generated through the Trustee organizations makes it an indispensable player in achieving Landcare outcomes. Finally, the Landcare experience in New Zealand has shown that achieving sustainable outcomes requires effective coordination and partnerships between and among local communities, government agencies and the private sector.

Notes

- ¹ Growing for good —Intensive farming, sustainability and New Zealand's environment. Parliamentary Commissioner for the Environment, October 2004.
- ² Kaupapa in this context refers to the recognition of Maori ideology and that it is a matter for discussion and consideration.
- ³ Saunders L and Ross WD. 2004. The food production revolution: The search for a consumption efficient policy.
- ⁴ Lough R. 1990. Australian landcare experience.
- ⁵ The tours were organized by the Hawke's Bay Regional Council and the Rabbit and Land Management Programme, a joint central government agency initiative.
- ⁶ The Treaty of Waitangi is New Zealand's founding document between the Maori and the British Government. It takes its name from the place in the Bay of Islands where it was first signed, on 6 February 1840. This translation was provided by the Maori Language Commission for the NZ Landcare Trust on formation in 1996.
- ⁷ Trustee member organizations: Federated Farmers of New Zealand (Inc.), Federation of Maori Authorities (Inc.), Federated Mountain Clubs of New Zealand (Inc.), Ecologic Foundation (Inc.), Fish & Game New Zealand, Royal Forest and Bird Protection Society of New Zealand (Inc.), Rural Women New Zealand (Inc.)

- ⁸ Totara (*Podocarpus totara*) is a large native tree found throughout New Zealand. It grows to 30 m tall with a straight trunk up to 20 m. The bark is a rough reddish brown stringy type that peels off in strips. The timber is reasonably soft and of a beautiful reddish colour. It has been extensively used by the Maori to build their meeting houses and their carved panels.
- ⁹ Landcare Briefs
- ¹⁰ Review carried out by New Zealand Centre for Research, Evaluation and Social Assessment (CRESA).

5

Arctic Landcare

Björn H. Barkarson and Magnús H. Jóhannsson

Background and context

Iceland is located just below the Arctic Circle with a maritime cold temperate climate in the lowlands, to sub-arctic in the highlands. Mean annual temperatures range from 2–6°C, and annual total precipitation varies from 300–3500 mm.¹ Iceland is a young island in geological terms. Volcanic eruptions are frequent and therefore soils are mostly andosols.² Soil conditions are mainly influenced by volcanic activity, the cold maritime climate, and soil erosion by wind and water and cryogenic processes. Due to the long history of soil erosion, Icelandic soils are strongly affected by the steady flux of windblown materials from eroded areas (Arnalds 2004).

Sixty percent of the country was covered with lush vegetation when it was first settled in 874 (Bjarnason 1942, figure 1), but today it is left with only about 35% vegetative cover (Guðjónsson and Gíslason 1998, figure 2). The Icelandic landscape is characterized by vast barren areas with sporadic presence of vegetation and heathlands of various grasses, flowering plants and mosses. Low birch and willow shrub lands and lush birch (*Betula pubescens*) forests still exist, but are thinly dispersed across the country. The forest cover was significantly reduced from 25% at settlement (Bjarnason 1942) to about 1% in recent decades (Guðjónsson and Gíslason 1998). With such enormous loss of protective cover, land degradation accelerated, altering the entire ecosystem, decreasing biological diversity, diminishing soil fertility and changing hydrological processes and microclimates.



Figure 1. Vegetation in Iceland at the age of settlement.

Past and present land uses in Iceland

The first national assessment of soil erosion and desertification in Iceland was conducted in 1991 (Arnalds et al. 1997).³ The assessment showed, for the first time, the state of the country's soil resources after centuries of overexploitation. Erosion was taking place from 'considerable to extreme' levels on 40% of the country's total land area (table 1). Soil erosion was rampant in most districts in Iceland, with the fastest rate of soil erosion occurring in the late 1800s.



Figure 2. Vegetation in Iceland at present.

The history of overexploitation of Icelandic soils can be partly explained by the constant battle for human survival in a cold and harsh climate. From the 9th to the 20th centuries, Iceland was a community of farmers raising cattle, sheep and horses. To make way for this farming system, native forests and woodlands were converted into grazing lands by initially felling trees for firewood, charcoal and shelter. All available wood was harvested, and livestock were continuously grazed on sensitive soils throughout the year. This was an era of extreme poverty when people eked out a living, using every means to survive in an extremely cold climate.

Table 1. Land classification in Iceland according to erosion classes

Erosion class	Area (km ²)	Percentage of whole
0 No erosion	4,148	4.0
1 Little erosion	7,466	7.3
2 Slight erosion	26,698	26.0
3 Considerable erosion	23,106	22.5
4 Severe erosion	11,322	11.0
5 Extremely severe erosion	6,375	6.2
Mountains	9,794	9.5
Glaciers	11,361	11.1
Rivers and lakes	1,436	1.4
Unmapped	1,010	1
Total	102,716	100

On a scale of 0–5; 0 for no erosion to 5 for extremely severe erosion.

Evolving land management policies

Agriculture has been the dominant land use in Iceland. Livestock production is the largest enterprise in the agriculture sector; hence, a significant proportion of the land is utilized as rangeland. The lowlands constitute the privately owned lands, while the highlands are divided into ‘commons’ utilized by local communities for grazing animals.⁴ Land management in the highlands is community-based, and has its roots in century-old legislations and traditions. Grazing systems in the ‘commons’ are simple with continuous sheep grazing and horse grazing during a 3–4 month growing season (Barkarson 2002). The severity of land degradation in Iceland can be primarily attributed to centuries of continued overgrazing. This is exacerbated by harsh climatic conditions, which prevent plant regrowth. Land management strategies induced by humans are therefore the main culprit of land degradation. At the turn of the last century, the ecological capacity of the land exceeded its limits, resulting in serious environmental consequences, and with inherently sensitive soils, sustainable land management has become a formidable task.

During the 20th century, several land management and policy regimes were developed, with emphasis on increasing production to meet the demands of the growing agriculture sector. The last 50 years of the past century saw a rise in agricultural subsidies, but natural resources conservation was not given priority. The subsidies were meant to boost livestock production rather than achieve conservation goals. As a consequence, overgrazing of sheep was widespread, and unsustainable practices were pervasive, particularly in the 'common' lands. Hence, the period from the 1960s to the late 1980s has left the country with deep scars on Icelandic soils and serious environmental challenges.

In 2000, an agreement was forged between the Icelandic government and the farmers association, outlining the eligibility criteria applied to agricultural subsidies.⁵ The agreement involves stringent compliance to the standards of sustainable land use. This was a major policy reform in terms of support for agri-environmental development. It arose from public pressure, partly triggered by the findings of the national soil erosion assessment, which showed not only the poor conditions of Icelandic rangelands, but also the growing interest of farmers in conserving natural resources. Modern-day farmers were more conscious about improving their business image and more concerned with securing the long term foundation of sheep farming in Iceland. Farmers were found to have strong interest in improving the quality of their sheep, and in adding premium value to environment-friendly sheep products (Arnalds and Barkarson 2003).

The Soil Conservation Service

The Soil Conservation Service (SCS) was founded in 1907, as a landmark legislation in the history of environmental policy in Iceland. The SCS activities are one of the oldest official conservation efforts in the world. Initially, the main focus of the SCS was halting catastrophic erosion by erecting windbreaks using local materials, protecting sensitive areas from grazing, and stabilizing sand dunes with lymegrass (*Leymus arenarius*). Funding was very limited, but government officials realized the magnitude of the problem and were determined to redress land degradation. Culturally, Icelandic people have shown little faith in mitigating soil erosion events—they believe that the forces of nature and God are not to be defied by man. Hence, community participation in the early years of the SCS operations was very low. Many farmers continued intensive grazing, and as their farms were rapidly eroding they were forced to abandon them; most of these farms were never reoccupied.

Halting erosion

Seeding lymegrass was the most common method used to arrest soil erosion in sand dunes. Spreading fertilizers and other grass species was also used to build up soil cover and restore soil fertility in eroded areas. As seedlings of lymegrass do not survive in grazed areas, improved grazing plays an important role in erosion control.



Pastures reclaimed by farmers through grazing management on degraded land.

Critical erosion levels are high on common lands where farmers are employing unsustainable grazing. The SCS objected to this practice but had very little success in halting it. Grazing in the common lands is deeply rooted in Icelandic culture, and traditional grazing rights are often used by farmers to justify their practices. Nonetheless, the SCS presented several options to reduce or mitigate the impacts of poor grazing in common lands. The staff encouraged farmers to improve their land-use practices, to stop grazing in susceptible areas and to find alternative sources of income. Some farmers were prepared to stop grazing in the most sensitive areas, but many were ultimately faced with economic constraints. Without alternative livelihood opportunities and appropriate land-use options, farmers continued grazing their animals even as the conditions of the land worsened.⁶

The government's agricultural subsidy programme required the SCS staff to work closely with farmers when developing management strategies. However, success was limited, because in many cases, the SCS was perceived as an 'enemy' rather than a partner in rangeland management. Generally speaking, the impacts of SCS activities in vegetating sand dunes and in re-establishing vegetation in some districts were significant. However SCS efforts alone were insufficient to reverse widespread land



Degraded grazing land recovers slowly under Iceland's extreme climatic conditions.

degradation in the country. It was unfortunate that despite 100 years of active soil conservation and restoration efforts, erosion remains pervasive and the health of the land is generally far from good, with desertification threatening the country's natural wealth.

Building participatory approaches into the SCS

The early work of the SCS involved erecting fences around the most severely eroded areas, and seeding the area to bring back native species such as lymegrass. These activities were largely undertaken by the SCS using the agency's manpower and financial machinery, and local people were only marginally involved in the conservation work. As a consequence, controlling soil erosion came to be regarded as the sole responsibility of the government, not a shared responsibility of land users and the people living in the affected areas. The SCS realized that even with the use of modern machinery for restoration activities, its efforts have not been at par in terms of covering expansive areas that need to be restored. It became clear that more hands are needed to complete the restoration work, and this can only be possible with more involvement of

the people. This prompted the SCS to shift its focus to addressing environmental problems with more community involvement, and testing various participatory approaches.

The beginning of Landcare

In the search for effective methods to reverse land degradation, several approaches were adopted based on lessons from previous soil conservation programmes within and beyond Iceland. These include developing quality resource information, analysing barriers to conservation, and targeting incentives.

In late 1980s, the Landcare concept was introduced to Iceland through key staff of the SCS who had visited Australia to learn about how it approached land degradation problems. At the same time, Andrew Campbell, Australia's first National Landcare Facilitator, visited Iceland on a short consulting contract. Mr Campbell facilitated knowledge exchange and learning sessions about Landcare with the SCS staff. The SCS was attracted to Australian Landcare, particularly in the area of private property planning by landowners, and the use of incentives to encourage this with a focus on innovation and participatory approaches to land management.

Inspired by the Landcare concept, a programme called 'Farmers Heal the Land' was launched by the SCS in 1990. The programme focused on farmer innovations, particularly around sowing suitable species and fertilizing to induce regeneration of old vegetative species (Arnalds 2000; 2005). The main idea was for local innovations to be complemented with government support. Farmers received from the government up to 50% of the total project cost, and SCS staff acted as technical advisers, facilitators and monitoring agents. For the SCS, these clearly defined roles necessitated frequent interaction among staff and farmers, and field visits became the norm for SCS staff.

The programme has proven successful with a higher percentage of farmers participating in the programme.⁷ The frequent field visits of SCS staff to advise farmers on grazing management brought them closer to farmers. Additionally, SCS staff learned local techniques from farmers and realized the importance of local knowledge and innovation in designing land management interventions. Furthermore, the programme demonstrated the crucial roles of land users in conservation efforts, and showed how local ownership can be instilled in conservation and restoration activities.

However, a major deficiency in the programme was that most activity planning processes were carried out informally. The plans were often produced spontaneously without utilizing proper planning tools or technical information. High-quality aerial photographs that aid farmers in creating a vision for their property were inadequately utilized. Subsequently, a pilot project was initiated to introduce more formal and pragmatic planning. However, some farmers were reluctant to participate in formally organized activities, such as formal meetings and training courses on land management and restoration planning. This may have been due to insufficient introduction of the

benefits of proper property planning, or farmers simply lacked time, or were not comfortable with formal activities. Some form of incentive such as certificates or awards might have encouraged farmers to participate in more formal activities.

In 2002 a cooperative programme called 'Better Farm' integrated soil conservation, forestry, extension and nature conservation factors in developing property management plans. This programme was an adaptation of Australian Landcare's participatory farm planning approach (Arnalds 2005). However, the focus of this programme was on individual farmers, not on farmer groups.

Recently, there have been moves to combine the two programmes (Better Farm and Heal the Land) with a common focus on property management and restoration planning, with financial support for individuals who wish to restore degraded vegetation and ecosystems. Combining the experiences and benefits of the two programmes is a strategic move towards a holistic approach to land management.

Lessons learned and remaining issues

Iceland's complicated institutional structure makes a holistic approach to property planning very difficult. The number of small agencies does little to help coordinate different programmes—farmers have to approach different agencies for information and advice, including soil conservation, forestry, nature conservation, agri-environment support and agricultural extension services. This leaves farmers with ambiguous and piecemeal advice. One aspect of the solution is the development of concerted efforts and coordination among the GIS laboratories and the research and extension service, currently run by different government agencies. More coordination efforts are needed for collaboration and joint planning to avoid wasteful expenditure on environmental repairs and maintenance. Furthermore, this indicates the need for structural adjustments within government to streamline fragmented efforts into a unified and holistic natural resource management (NRM) strategy. The practical benefit of a holistic strategy is that farmers and other stakeholders can easily identify with it. Limited resources can be efficiently channelled and accountabilities and performance audit become less complex.

Finally, the goals and objectives of sustainable land management will be difficult to achieve without providing policy support. The knowledge, tools and technologies are ready for use, such as property planning, aerial photographs and GIS databases. The capacity of government agencies and the people's interest in NRM issues are now seemingly aligned to move forward, but more enabling policies are still required to expedite the achievement of NRM outcomes. The experiences of Landcare around the world provide inspiration and guidance to the conservation efforts of the Icelandic community, but more work is needed to vigorously pursue the Landcare approach as a unifying NRM strategy to build a land stewardship ethic among the Icelandic people.

Notes

- ¹ For more climatic details see Icelandic Meteorological Office at <http://www.vedur.is>
- ² Soils of volcanic origin.
- ³ At a scale 1:100,000.
- ⁴ Common lands are considered public lands owned either by the state or by the local community, which are available for common resource utilization and controlled the community itself. They are generally located in the highlands, usually with poor soil conditions. Rules for land management in the 'commons' are set by local communities, with technical guidance from government agency staff.
- ⁵ 22.5% of production cost.
- ⁶ It was also possible that there were no viable land use options in the 'commons', and relocating grazing areas away from the common lands was probably more costly for both farmers and the government.
- ⁷ 600 farmers participated in the districts where the programme is being implemented.

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6

Landcare in the Philippines

Maria Noelyn Dano, Evy Elago, Delia Catacutan and Agustin Mercado Jr.

Farming systems in the Philippine uplands

In the Philippines, where about 20 million people live in the uplands, sustainable and profitable farming is a major concern (Garrity 1993). The uplands are biologically complex and diverse, and have risk-prone ecosystems. With a national population of about 90 million, pressures in lowland areas have led to movement of people to the difficult environment of the uplands—a life of subsistence. Further population increase and land scarcity have resulted in the transformation in land use from subsistence shifting cultivation into permanent agriculture on fragile slopes, and have created a new order of social, economic and environmental problems (Garrity 1993; Maglinao and Hashim 1993).

The farming system in the Philippines is characterized by a large number of small-scale farmers, whose primary objective is production for family food supply. The system is predominantly based on the production of upland rice (*Oryza sativa*) or maize (*Zea mays*). In some areas there is more focus on root crops, for example cassava (*Manihot esculenta*) or sweet potato (*Ipomea batatas*). Since most upland farmers have extremely limited access to capital, production is generally confined to subsistence levels.

Many of the prevalent cereal-based farming systems practised by smallholder farmers are highly unsustainable. This is evident in the declining conditions of the natural resource base, and in the persisting negative production flows. Fujisaka et al. (1995) estimated that the decline of maize and upland rice yields is between 200 to 500 kg per hectare per year because of diminishing soil fertility. Due to relative

inaccessibility, fragility and marginality of sloping uplands, the sustainability of production is inseparable from the sustainability of the resource itself. Damage to the resource base is rapid and can only be reversible over a long period of time if appropriate farming technologies are applied.

The beginning of Landcare

Landcare in the Philippines grew out of efforts to promote soil conservation technologies among farmers in the upland municipality of Claveria, Misamis Oriental, in the southern Philippines (Cramb 2004). It commenced in 1996 when local farmers, the local government and researchers from the World Agroforestry Centre (ICRAF) formed a special partnership to promote conservation farming and agroforestry technologies in the uplands. Its development can be traced back to when ICRAF took over the research site of the International Rice Research Institute (IRRI) in Claveria in 1993. IRRI in collaboration with the Philippines Department of Agriculture (DA) initiated a farmer-to-farmer training programme on upland rice farming systems from 1987-92. The training involved the promotion of shrub legumes as hedgerows in contour farming, better known as the Sloping Agricultural Land Technology (SALT), which the DA has been advocating since the early 1980s.

The uptake of contour farming using shrub legumes was low, primarily because the technology required intensive labour and planting materials not usually affordable by small-scale farmers. ICRAF then refocused its research on enhancing adoption of conservation farming practices by tapping the knowledge of local farmers and conducting various field experiments on contour hedgerows systems, following on from IRRI's previous work (Catacutan 2007).

In 1996, ICRAF identified a low-cost farmer adaptation of contour hedgerows—the use of natural vegetative strips (NVS). The NVS evolved as a variant of the SALT system when farmers experimented with the hedgerow concept by placing crop residues along contour lines and leaving the native weeds to re-vegetate in the unplanted strips, eventually forming stable natural barriers to erosion (Garrity and Mercado 1994; Stark 2000; Sabio 2002; Catacutan 2007). ICRAF researchers validated the technical effectiveness of NVS through on-farm trials and this was found to be highly adaptable to farmers as an alternative to the more complex and labour-intensive method of establishing and maintaining hedgerows of shrub legumes or forage grasses. (Stark 2000; Mercado et al. 2001; Arcenas 2002; Sabio 2002; Cramb 2004).

Various advantages of NVS were observed including the following:

- they reduce soil erosion by more than 90% and improve water infiltration during heavy rains;
- the labour and cost required for establishing and maintaining the strips is minimal;
- they provide minimal competition to adjacent field crops;
- they filter pesticides, nitrates and soluble phosphorus from water run-off;
- they make subsequent land preparation and crop management easier; and
- they provide a good foundation for farmers to develop agroforestry farms to increase productivity.

Recognizing its viability, the NVS technology was promoted around the municipality. An extension team was formed, called the Contour Hedgerow Extension Team (CHET), which comprised a farmer adopting NVS, a local technician representing the local government unit (LGU) and ICRAF personnel. The farmer trainer was compensated by ICRAF for his time, and the municipal government supported the technician (Stark 2000; Arcenas 2002). The CHET then took the lead in disseminating the technology in the villages. It began by training individual farmers but moved to group training when the demands were too high to accommodate the individual requests (Catacutan 2007). In mid 1996, the trained farmers expressed interest in further training on related topics. An ICRAF researcher advised that it would be easier to extend help if they were organized and the farmers quickly responded to this idea (Arcenas 2002; Sabio 2002; Stark 2002; Catacutan 2007). This paved the way for the formation of landcare groups in the villages and of the municipality-wide Claveria Landcare Association (CLCA).

Catacutan (2007) studied the history of Landcare in Claveria and found different versions of the story. For example, it was noted that 'Landcare' came about as a name of the newly formed group (CLCA), which consequently became the official identity of the programme. Previous studies cited that Landcare was taken from a sticker on the ICRAF vehicle. The President of the CLCA stated, however, that the adoption of the term 'landcare' was essentially the group's idea as the members were looking for a word that was simple, easy to remember and captures the practical message of caring for the land. Further, an ICRAF scientist claimed to have suggested the name with reference to Australian Landcare, although there was said to be no contact between ICRAF and the Australian Landcare at that time (Catacutan 2007).

By 1997, ICRAF records show that 250 farmers had been trained by the CHET, and 100 had joined the CLCA. The CHET continued to implement group training, but shifted its strategy to working intensively with LGU officials and the CLCA (Catacutan 2007). Mercado et al. (2001) referred to this strategy as the 'Two-Pronged Approach'. Under this new collaboration, barangay (village) officials and technicians assisted ICRAF and the CLCA to organize meetings and conduct training sessions. The CHET model had then evolved into a partnership among the CLCA (farmer groups), ICRAF (as facilitator and technical service provider) and the barangay government (representing the LGU).

The increasing activities of landcare groups in the villages generated interest among policy-makers and municipal government officials. The municipal government subsequently extended its support in the form of policies, funding and increased technical expertise from its agricultural technicians. The combined efforts of the CLCA, LGU and ICRAF facilitated an exceptional increase in farmers employing wide-ranging technologies to enhance farm management on sloping land. These developments marked the beginning of Landcare in the Philippines.

Contoured vegetated strips reduce soil loss and improve food production in high rainfall uplands.



The Landcare approach

With Landcare, farmers get to be leaders, and are not just mere beneficiaries of projects — Claveria farmer

In the Philippine context, Landcare is described as an approach that rapidly and inexpensively diffuses conservation farming technologies and agroforestry practices among upland farmers, based on the farmers' interest in learning and sharing knowledge on new technologies that increase income and conserve natural resources (Garrity and Mercado 1998; Mercado et al. 2000). It also refers to a group of people concerned about land degradation problems who are interested in working together to enhance and sustain the health of the land in the long term (Catacutan 2007). Finally, it has evolved as a community-based approach designed to effect change in complex and diverse situations (Mercado et al. 2000).



Landcare is a partnership between grassroots landcare groups, the LGU, and facilitators and technical service providers (for example ICRAF, NGOs and national government agencies [NGAs]). Its success depends largely on how these three key sectors interact and work together (figure 1).

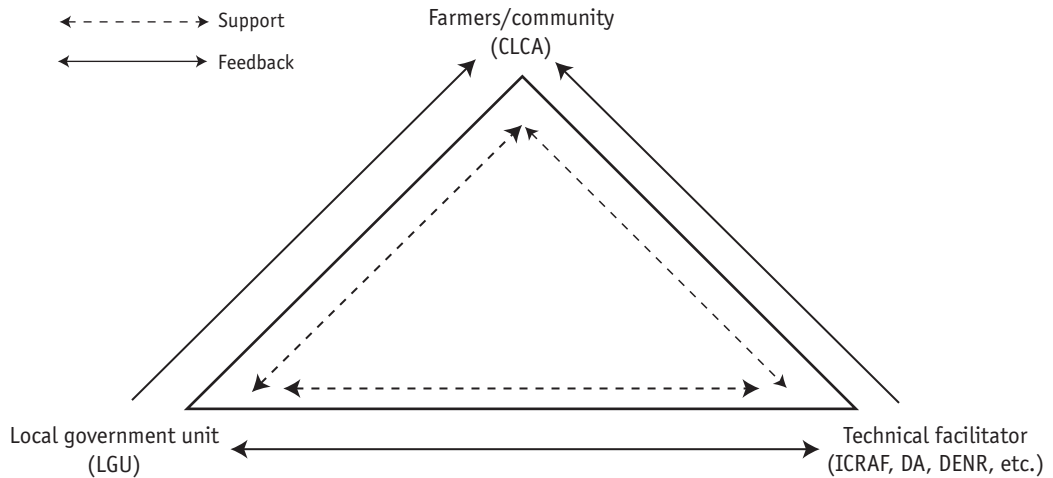


Figure 1. Key partners in Landcare.

As an approach, Landcare is based on three interrelated cornerstones, namely appropriate technology, institutional strengthening or organizational development and partnership building (Catacutan 2007). These help identify specific actions to promote and successfully expand (or scale up) Landcare. Technology promotion involves research, documentation and dissemination of conservation farming practices that are simple, effective and within a farmer's capacity to implement. Institutional strengthening centres on improving community leadership and enhancing participation. Collective actions permit local people to address wider community issues. Finally, complementing resources and harmonizing actions among various development players, partnership building is pursued to ensure integration of Landcare approaches and practices within existing programmes of the government and private organizations.

Scaling up Landcare

The initial success of Landcare in Claveria encouraged scaling up in other sites. In 1998, ICRAF introduced Landcare to the municipality of Lantapan, Bukidnon province (about 180 km from Claveria) where it had been working on agroforestry research since 1994. This was followed by other municipalities in the province, including Malitbog and Manolo Fortich. Several ICRAF donors partly supported this initiative, including those from the governments of New Zealand, the USA and the European Union. Particularly in Lantapan, the USAID-funded SANREM-CRSP project (Sustainable Agriculture Natural Resource Management-Collaborative Research Support Programme), which started in 1993, was instrumental in the initial efforts of ICRAF to scale up Landcare under its broad integrated natural resource management (INRM) research framework. Furthermore, in 1999 both the Spanish and Australian governments provided funding to advance the implementation of Landcare. The Philippines–Australia Landcare initiative in particular, which started in 1999, encompasses two successive action research projects:

- Phase I (1999–2004): *Enhancing Farmer Adoption of Simple Conservation Practices—Landcare in the Philippines and Australia*, funded by the Australian Centre for International Agricultural Research (ACIAR)
- Phase II (2005–2007): *Sustaining and Growing Landcare Systems in the Philippines and Australia*, funded by both ACIAR and the Australian Agency for International Development (AusAID)

The principal aim of the first project was to test the applicability of the Landcare approach to enhance the adoption of conservation practices by upland farming communities in Mindanao. This involved providing support for Landcare programmes in three core sites and evaluating the impacts in terms of the adoption of conservation practices and the formation and development of Landcare groups and networks. The project found that the Landcare approach in these sites was very effective in enhancing farmers' capacities and changing land-use practices at a rate that had seldom been observed in the Philippines (Metcalf 2004). The aim of the second project was to find out what it takes to sustain Landcare in the core sites and to scale up Landcare in a range of contexts in five provinces (Cramb et al. 2006). The agencies involved in these projects were ICRAF, SEAMEO Regional Centre for Graduate Study and Research in Agriculture (SEARCA), Catholic Relief Services (CRS) and the University of the Philippines, plus a number of municipal and provincial governments. These projects also benefited from the support of Australian agencies such as the Department of Primary Industries and Fisheries, Queensland, and the University of Queensland.

In addition, the Spanish Cooperation Agency (AECI) funded successful projects to support scaling up efforts for Landcare in Mindanao and the central Philippines from 1999–2006. Through these projects, the Landcare Foundation of the Philippines Inc. (LFPI) was established to manage a trust fund to support small NRM-based livelihood projects of landcare groups. The LFPI however, also aims to take a leadership role in promoting the Landcare concept and practices, as well as help build national capacity. The idea of a foundation grew out of a concern that external supporters, such as ICRAF, SEARCA and donor agencies have timelines and, at some stage, they will have to

Landcare facilitator discussing crop concerns with Misamis Oriental farmers.



relinquish their roles to a viable, autonomous and robust Landcare agency, which can continue promoting and supporting sustainable NRM practices through the Landcare approach for the long term.

Processes and approaches to Landcare

The Landcare approach fostered improvements in environmental governance, and in agriculture and forestry extension. Key processes within the Landcare approach are discussed in turn.

1 *Partnership with LGUs.* Often local governments are used as entry points, because they occupy the most strategic position to make a Landcare programme succeed. Local agricultural or forestry extension staff are usually involved to enthuse the bureaucracy. Partnership does not necessarily mean setting a formal contract prior to engagement. Although official, more often than not, the start up is rather informal in nature, setting a more conducive atmosphere for a genuine partnership to naturally develop. The general approach to encourage LGU participation in Landcare programmes is to present Landcare as a complementary approach to effective NRM where areas for collaboration could be developed. LGU representatives are then made part of planning and implementation as well as the monitoring and evaluation of any joint venture. The aim is then to encourage the LGU to take ownership and leadership in the implementation of a Landcare programme. This avoids raising expectations, given the prevailing scenario in which foreign-funded projects usually provide grants to local governments to implement development projects.

2 *Sharing resources.* Based on the spirit of volunteerism, Landcare encourages sharing of resources. The main resource provided by the project is typically the Landcare facilitator, who will work with the local extension officer and farmer leaders in implementing Landcare activities. Expenses for training, site visits and the like are usually shared with the LGU, while government line agencies also provide some materials such as plant nursery stock.

The rationale behind sharing resources goes beyond cost sharing as a saving mechanism. Resource sharing can develop a greater sense of ownership in the activities, and treats project partners as real partners, not passive recipients of development aid. It has frequently been documented that development aid may cause a negative impact on the very people that it intends to assist by reducing resourcefulness and developing dependency on external agencies, thus weakening the very core of social capital which could have been vital for a more sustainable development. Cost sharing also connotes sharing of investments, responsibility and accountability, and may involve sharing of risks while empowering local partners in the process. As one farmer aptly put it, "We are partners of the Landcare facilitators and with the World Agroforestry Centre (ICRAF) and that is something that we cherish."

3 *A basket, rather than a package of technologies.* A Landcare facilitator avoids giving a package of technologies for farmers to rigidly follow step by step. Rather, farmers are

assisted in making decisions about technologies that can be adopted, considering their capacity and available resources. However, it is documented that the NVS has been a widely adopted conservation farming technology because it is simple and affordable and thus easier for farmers to implement. Landcare facilitators are, however, expected to be equipped with sufficient technical skills in various agricultural technologies to address farmers' different technological needs. Aside from sharing their own technical expertise, facilitators also link farmers to other partners and agencies that can provide other specialized training suited to the farmers' needs.

Landcare members share and learn better farming practices.



Good soil conservation management is an integral part of many Philippine Landcare practices.



- 4 *Farmer-to-farmer approach.* Landcare facilitators help the formation of farmer trainers' groups (FTGs) from among the members of Landcare associations. The aim is to spread training experts at the lowest level. Enhancing the capacity of the farmers to become trainers is a priority, considering that project inputs may come and go. Moreover, farmers can be very effective dissemination agents to fellow farmers. The Food and Agriculture Organization of the United Nations (FAO) research in the country found that the farmers' primary source of information was other farmers, and that agricultural technicians (ATs) were not meeting the farmers' needs. This brought about a call to transform the role of the technician into a facilitator or information broker (FAO 1996), as in the Farmer Field School model, from one who simply gives instructions. The Landcare experience was similar in that the technology adopters tended to learn from their fellow farmers. Thus investing in farmer trainers is a strategic way for transferring technical information.
- 5 *Farming systems improvement rather than farm demonstration model.* In many projects, the 'model farm' strategy is commonly used, where the assisting agency provides to the farmer-cooperator material inputs to showcase the technologies being promoted. However, Landcare advocates farming systems improvement where emphasis is put on improving the farming system in the context of available resources and technologies appropriate to the socio-economic conditions of the farmer and the biophysical conditions of land.
An evaluation study showed that many farmers adopted some technologies without going to farmer training schools. In Claveria for example, at least 49% of technology adopters took up the technologies or developed agroforestry systems on their own, without prior training. In Lantapan, 39% of adopters have gained knowledge of the technologies from other farmers, while 61% have established contour barriers on their own.
- 6 *Group approach.* The inclusive nature of Landcare promotes the formation of special Landcare groups that are supported to hasten dissemination efforts in the community. Five types of Landcare groups have been supported and helped: 1) Landcare farmer groups; 2) Junior Landcare involving primary school children; 3) Forest Landcare; 4) Landcare in church; and 5) Landcare youth groups composed of out-of-school youths in the community.
- 7 *Information exchange through linkages and collaboration.* Landcare facilitators assist the flow of information from various relevant institutions by establishing linkages and collaborations. Many national government agencies share common goals and roles such as the Department of Agrarian Reform (DAR), Department of Environment and Natural Resources (DENR) and state colleges and universities. These agencies also undertake special extension programmes in selected parts of the country. Linking or collaborating with these agencies builds synergy, and promotes knowledge sharing and cost sharing. A commonly used strategy to facilitate knowledge sharing is cross-farm visits. A number of initiatives at LGU level are inspired by these farm visits, sometimes with an element of peer pressure or constructive and creative competition.

- 8 *Strengthening research and extension linkages.* Having a strong learning orientation, Landcare facilitators systematically analyse the process and substance around Landcare. They apply various techniques of problem analysis and documentation, and consciously link or feedback to technical resource persons when finding technical solutions to NRM problems. Thus, the link between research and extension is fundamentally important in Landcare. Correspondingly, ICRAF and SEARCA have included Landcare in their research agenda—ICRAF has used Landcare as a platform for research on development, particularly in the areas of environmental services, collective action and local governance.

The outcomes

An evaluation study in 2005 documented the value of the Landcare approach in enhancing adoption of improved farming practices, both conservation and production, and building the social capital of partner communities (Cramb et al. 2003; Vock et al. 2005). The added elements and impacts of Landcare are discussed in turn.

Promoting technology and creating livelihood opportunities. Conservation technologies including natural vegetative strips and agroforestry have been adopted by 35–65% of project area farmers. Currently, more than 15,000 farming families are involved and have successfully extended conservation farming technologies to a further 5000 farmers and established thousands of communal and individual tree nurseries. Millions of fruit and timber tree seedlings are planted on or just above the NVS, on farm boundaries, in buffer zones of protected and riparian areas, and as small-scale tree plantations.

Natural resource conservation. 15–25% of the total farm area has been protected with conservation measures, especially on cultivated, steeper vulnerable land.

Knowledge, skills and social capital enhancement. There is an increase in the knowledge and skills of farmers through the training provided. A rapid formation of more than 600 landcare groups, involving 25–35% of local farming households as group members, has enhanced social capital.

Environmental stewardship. There has been an active involvement in the programme by more than 50 local institutions including local government units (LGUs), national government agencies, NGOs and private agribusiness.

Adaptations of the Landcare approach. A number of national government bilateral projects benefited from technical and institutional innovations in Landcare. These include the EU-funded Upland Development Project in South Mindanao; the International Fund for Agricultural Development (IFAD) funded projects in western Mindanao, the CARAGA region and in northern Luzon; Community-based Forest Management (CBFM) and Community-based Natural Resource Management (CBNRM) programmes of DENR; and the Department of Agrarian Reform (DAR) projects in Mindanao. These projects have in one way or another adapted the Landcare concept and practices on their project sites. More recently, the National Economic Development Authority (NEDA) has co-opted the Landcare approach as a viable strategy for upland development.

Further, the greatest success of Landcare was challenging the attitudes of farmers, policy makers, local government units and landowners about how to use the land to meet their current needs while conserving resources for future generations (Mercado et al. 2001). Farmers are now voluntarily sharing their time and efforts. Policymakers are urging farmers to adopt conservation farming practices, and support these efforts by allocating local government funds and enacting local ordinances to provide additional incentives. Parents, school teachers, out-of-school youths and church leaders are now preaching the need for conservation farming and natural resources management. Although hard to measure, these are the important success indicators of the Landcare approach. Finally, it was noted that the Landcare approach provides:

- a vehicle for interested farmers to learn, adopt and share knowledge about new technologies that can increase income and productivity while conserving natural resources;
- a forum for the community to raise and address issues that they see important;
- a mechanism for local government to extend support; and
- a network for ensuring that ideas and initiatives are shared and disseminated.

The Philippines Strategy for Improved Watershed Resources Management of the Department of Environment and Natural Resources (DENR 1998) incorporated the Landcare approach into its key institutional elements and operational framework. As the strategy moves into the implementation phase, this provides a good opportunity to scale up useful Landcare principles and experiences in other parts of the Philippines. However, the scaling-up process must respect and adhere to the critical underlying elements, such as farmer voluntary action and local government partnership, that made Landcare successful in the southern and central Philippines.

Lessons learned

Facilitation for continued learning. An inspiring effect of the Landcare programme has been the positive changes in the attitudes and aspirations not only among farmers, but other key players as well, which have previously applied predominantly 'dole-out' and 'top-down' extension approaches (Vock et al. 2005). The Landcare experience has shown some of the factors contributing to successful extension. There is great synergy developed when facilitators recognize the value of tapping farmers' multiple sources of information and insights that shape and enrich their knowledge base. A learning orientation with the willingness to experiment, fail and learn is the key that allows flexibility in development work. The challenge here is to improve competence in diagnosis and facilitation and in collaborating with other disciplines and sectors to assist in identifying and solving local problems.

Adaptive management and learning organization. While critical, highly competent facilitators are not the only requirement, many commentators have advocated the need for a learning organization—connoting changes in procedures, systems and structures

necessary to turn top-down development bureaucracies into organizations that concentrate on process and capacity building. The concept of learning organization includes among others the introduction of incentive schemes to reward participatory behaviour by personnel, both in the office and in the field (Parfitt 2004). Organizational policies and practices have to adapt to changes in socio-economic and environmental dynamics that constitute the triple bottom line in environmental decision making.

Strategic partnerships and communication. Decentralized extension calls for the development of new relationships among researchers and the staff of local authorities in whose hands the country's extension services mainly lie. The Landcare approach, which puts emphasis on the processes much more than quantifiable targets, is not without challenges. Implementing development projects can be costly and time consuming. But with Landcare, sharing resources among partners is an inherent part of its practice and any interventions are collectively designed to be strategic. It has also been an important feature in the Landcare approach to avoid development efforts that are piecemeal or fragmented, to achieve more sustainable outcomes. A Landcare facilitator, or anyone involved in doing extension, must be able to identify the communication network within the agricultural system, and the key players in shaping agricultural and rural development for a more coordinated and cost-effective response to local needs. Effective extension requires that the host institution's organizational approach be highly facilitative, and that it demonstrates leadership skills that include being a part of a joint learning process.

Challenges and prospects

An evaluation study on the Landcare programme confirmed that although conservation technologies were understandably the primary focus for farmer involvement in Landcare, many farmers became involved because of the perceived opportunity to access potential livelihood improvements such as fruit and timber trees, high value vegetable crops and collective marketing and purchasing schemes, implemented through the Landcare process (Vock et al. 2005). To better address sustainability through extension efforts, there is a need to enhance the link between technology adoption and economic improvement, an area now being looked into as a priority for upcoming initiatives. The challenge is to maintain or improve competencies in diagnosis and facilitation and link to, or collaborate with, other disciplines and sectors to identify and solve local problems.

The opportunities for Landcare in the Philippines are still to be fully exploited. For example, there are real prospects for research and development efforts to be carried out through, and managed by, landcare groups. This would increase the amount of work and the diversity of trials that can be accomplished ensuring more robust understanding of the performance of technical innovations. Despite the growing popularity of Landcare in the Philippines, mainstreaming the concept within the government's NRM agenda is not without problems. The challenge is in building a

functional coalition of Landcare practitioners, supporters and advocates to form a critical mass, and to rally behind the principles and practices of Landcare whether through national government regimes or through robust local structures. The Landcare Foundation of the Philippines can be expected to take a catalysing role in leading a coalition of groups, individuals and institutions to vigorously pursue scaling-up efforts nationally.

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7

Landcare in South Africa

Lydia Bosoga, Keith Taylor, Sizwe Mkhize and Bonga Msomi

Introduction

For South Africa, the launching of LandCare in the late 1990s was propitious. The country was in the process of instituting meaningful change in political and government systems after the apartheid regime. Government leaders and politicians were seeking out innovations to improve public administration and strategies that could be appropriate to the on-going structural adjustment. The 1996 Constitution emphasizes greater involvement of communities in the development of national policies and programmes. Concerns about massive degradation of natural resources and ecosystems, and the recognition of community involvement in addressing these problems, triggered innovative government programmes. In addition, there was urgent need to address rural poverty through job creation in the countryside. Hence, the LandCare Programme in South Africa was conceptualized so that community LandCare projects could create jobs for rural folk, while increasing agricultural productivity and rehabilitating degraded resources.

Natural resource management prior to LandCare

Historically, government interventions have been limited and piecemeal. Tactical interventions were implemented only when severe droughts were experienced. In the late 1940s, specific legislation providing incentives for conservation practices was implemented for titled (freehold) land. Management issues in communal lands were

referred to any applicable general legislation. The shift to more democratic governance in 1994 provided the impetus for government to pay attention to environmental issues, especially in communal farming areas where poverty is concentrated. The government has recognized the twin problems of poverty and resource degradation and the costs associated with environmental repairs and maintenance as a consequence of continuous degradation. In 1993, environmental degradation was estimated to cost South Africa more than two billion rand per year (Hoffman and Ashwell 2001). Problems associated with environmental degradation include:

- reduced agricultural production
- loss of soil and nutrients
- land, air and water pollution
- sedimentation of water bodies and dams
- flooding
- loss of biodiversity
- invasion of alien plant and animal species
- salinization

The cost of environmental degradation is enormous in terms of absolute loss of production, environmental repairs and maintenance and foregone income. Forty percent of the South African population lives in rural areas, where most of the people depend on the natural environment for their livelihood. Poor people bear the costs of environmental degradation with reduced livelihood opportunities. This impact is extremely detrimental to the South African economy.

The most serious and widespread form of environmental degradation in South Africa is gully erosion (*donga*), because the soils are highly susceptible to erosion. In many rural areas with rolling terrain, the situation is worst when the soil is left without protective cover.

The 1996 South African Constitution provided, within the Bill of Rights, the necessary support to deal with land degradation and promotion of sustainable management of agricultural resources. Everyone has the right to an environment that is not harmful to his or her health or well-being; and have the environment protected, for the benefit of present and future generations through reasonable legislative and other measures that:

- prevent pollution and ecological degradation;
- promote conservation; and
- secure ecologically sustainable development and use of natural resources while promoting justifiable economic and social development.

Previously, the only legislation dealing with agricultural resource degradation was the Conservation of Agricultural Resources Act 43 of 1983 (CARA) with a primary focus on the management of soil, rangeland, water, weeds and invasive plant species. CARA includes incentive schemes to support sustainable management of these resources. More recently, the Bill on Sustainable Utilisation of Agricultural Resources (SUAR) (2007) superseded the existing CARA, which includes many innovative programmes besides Landcare.

Early beginnings of the LandCare programme

Some NGOs in South Africa have had personal contacts with Australian Landcare since the early 1990s. In 1995, Ms Sue Marriott, one of the activists of Australian Landcare, particularly in Victoria, visited South Africa on a Churchill Fellowship and had discussions with some South African government officials about Australian Landcare. Through her interaction with NGOs and key staff of the Department of Agriculture (DoA), an interest group called LandCare Enthusiasts was formed. The so-called LandCare Enthusiasts came from several organizations in South Africa:

- Department of Agriculture—Dr Mishack Molohe, Ms Njabulo Nduli, Mr Keith Taylor and Mr Georg Schutte
- Farmer Support Group of the University of Natal— Mr Noel Oettle
- Linking Rural Communication (NGO)— Ms Elaine Spencer-White
- Council for Scientific and Industrial Research (CSIR)— Mr Dirk Versfeld

In the same year, Dr Mishack Molohe, Assistant Director General of the DoA, initiated the formation of a LandCare Steering Committee composed of individuals from the 'Enthusiasts' group, along with Mr David Grossman from the Ministry of Agriculture and Mr Roger Ellis from the Agricultural Research Council (ARC). Funded by the DoA, the steering committee concentrated on LandCare awareness, organized a series of provincial workshops, and also produced a LandCare video. The Steering Committee arranged a number of study tours to Australia, the first in 1997, where participants attended the National LandCare Conference in Adelaide and visited LandCare sites in South Australia, Western Australia and Victoria. The DoA funded three participants to the tour, and AusAid funded two provincial staff. In addition, eight people were funded through sponsorships raised by Ms Marriott in Australia.

Soon after the 1997 study tour to Australia, the Government of South Africa (GoSA) launched the National LandCare Programme (NLP). This was largely influenced by the LandCare Steering Committee and the group that had visited Australia. The Land Use and Soil Management (LUSM) Directorate within the DoA administered the NLP. Within that year, the Australian government, through AusAID's South African Capacity Building Programme, also funded a number of short exchange visits among Australian consultants and staff of the DoA to Australia and South Africa, to hasten capacity building for LandCare.

During the national LandCare awareness workshop in Pretoria in 1998, participants defined the goals and objectives of the NLP. With assistance from Australian consultants from AgWEST and GRM International, the DoA developed the first LandCare policy document, known as the Implementation Framework of the LandCare Programme (DoA 1998). The GoSA allocated R25 million per year for three years from its poverty relief funds to support NLP activities, and the government announced LandCare as a strategy to address serious environmental problems that were exacerbating rural poverty in the former homeland areas.

Following discussions between DoA and AusAID, it was agreed that AusAID would support the implementation of the NLP. Part of this support was for a project called Institutional Strengthening of the Department of Agriculture (ISDA), a project which was implemented from April 2001 to June 2004. The main objective of the ISDA project was to support the DoA in implementing the NLP through institutional strengthening at the national level and in pilot provinces in Limpopo, Mpumalanga, Kwazulu-Natal, Eastern Cape and North West provinces. The project had two components:

- support for strategic development and management of the LandCare Programme, development of human resources and improvement of the capacity of government departments in awareness creation; and
- marketing of LandCare.

The national goal of the South African LandCare programme is to “optimise productivity through sustainable use of natural resources to improve food security and employment, thus developing a better quality of life for all”. The Implementation Framework of the NLP defined the early stages of LandCare and its vision in South Africa: “LandCare South Africa was defined as community-based programme supported by both the public and private sector through a series of partnerships. It is a process focused towards the conservation of the natural resources (soil, water and vegetation) through sustainable utilisation and the creation of a conservation ethic through education and awareness”. In addition, it seeks to address rural poverty by means of sustainable job creation (Nduli and Dlamini 2000).

With Landcare, we have been converted from building concrete structures
to building people and community structure —

Eastern Cape Landcare Coordinator

The emphasis on livelihoods and job creation in implementing LandCare in South Africa is a significant transformation of the LandCare concept as developed in Australia. After examining Australian Landcare, the GoSA expected that LandCare could directly address the livelihood issues of black-dominated poor rural communities in South Africa. The relevance of LandCare was seen in addressing the twin goals of economic upliftment and environmental conservation, especially in the context of poor rural South Africans. The aim was to clearly link environmental conservation with income generation or job creation to make it more responsive to local needs. Hence the initial funding for Landcare projects came mainly from the government’s poverty relief funds.

Institutional framework for LandCare

The implementation framework of Landcare describes the LandCare Movement, the NLP and the organizational support structure. The LandCare movement involves community-based initiatives within provincial structures, with strong private sector and civil society participation. The NLP covers these various programme components:

- funding landcare projects
- capacity building of local communities and support staff
- awareness raising and promoting Junior LandCare
- policy development, research and evaluation

The GoSA is committed to ensuring that national efforts on natural resource conservation encompass the broader LandCare South Africa movement, founded on community-based initiatives within provincial structures that strongly involve private and civil society sectors. The government insists that attention must be given to the formation of provincial and national structures to institutionalize LandCare. Today, LandCare is part of government's Expanded Public Works Programme (EPWP), where LandCare projects and activities related to infrastructure development such as fencing, construction of dykes and improvement of dongas and water reservoirs, are undertaken or assisted by staff of the EPWP. The organizational chart below shows how the NLP is implemented from the DoA to community level (figure 1, page 85).

Challenges encountered

The DoA initiated LandCare in a top-down manner, because its senior staff were the first to be exposed to Australian LandCare and they secured national funding for the NLP. However, they also sought out the provincial departments of agriculture (PDAs) to initiate LandCare activities at that level. An outsider can easily criticize this approach as contrary to the bottom-up approach that LandCare has been promoting, but without this initiative, LandCare may never have been established in South Africa.

As a strategy to address unemployment and natural resource management issues, funds from the national treasury were used mainly for rural employment. Since the NLP is funded by government's poverty relief funds, it initially focused on projects that generate rural employment. There was limited funding available then to undertake capacity building, awareness creation and community mobilization. However, this has changed within a period of three years with substantial funding for capacity building now allocated on a regular basis.

The ARC comprises several institutions undertaking agricultural research. With funding from the DoA, the ARC implemented many of the first LandCare projects. Some of the early projects focused on soilcare in acidic soils in high rainfall areas on the eastern seaboard of South Africa. These soils are potentially productive if the fertility restrictions are correctly handled. When these projects proved successful, the ARC identified, tested and adapted improved agricultural technologies on communal farms. The ARC also applied participatory approaches and adopted the LandCare philosophy in their projects, providing a useful demonstration of good agricultural practices. One example was the Mlondozi project in Mpumalanga Province that won a number of national and international awards, and was chosen by the DoA and ISDA team as a national example of good LandCare practice.

Early in 2001 there were over 90 LandCare projects implemented throughout South Africa, increasing to 300 in 2006. Many of these are small community grant projects,

ranging from R100,000 to R5 million (US\$700,000). In 1999, half of these projects were for soil conservation because the NLP was under the Soil Conservation section of the DoA. However, the PDAs were observed to be generally practising a top-down approach to project implementation with most of these projects being identified, designed and managed by PDA staff, with little ownership from farmers. The difficulty was that there were no funds available to support the process of developing community-based LandCare projects—the projects were target-oriented and lacked real community participation. Despite these constraints, many projects have proven successful, and these serve as demonstrations for training hundreds of PDA staff and farmers.

While the LandCare projects were demonstrating success in some pilot provinces, there were also doubts among LandCare partners, especially NGOs. Many of them were disillusioned about the LandCare movement and suspected that the NLP was mainly a government employment programme. This was recognized by the DoA, which quickly responded to this issue by exerting more efforts to educate the PDA staff through training on LandCare and participatory approaches, with assistance from the ISDA project. The DoA and provincial governments are now also funding capacity building and awareness activities. The process of identifying, designing and assessing LandCare projects has greatly improved since 2004. Today most LandCare projects are identified and designed by community groups with assistance from PDA staff, and while the DoA directly funds these projects, the PDAs significantly contribute through personnel involvement. This strengthened linkages between provincial government projects and redirected limited funding to more focused projects.

The role of the DoA

At the national level, the DoA has a LandCare Sub-Directorate and a National LandCare Secretariat. The sub-directorate is mainly responsible for implementing the LandCare policy, quality control of LandCare norms and standards, the LandCare information system, help desk and overall management, monitoring and evaluation of the NLP. A major role is to report and properly account for the use of NLP funds. The sub-directorate also manages national LandCare projects, and national awareness and capacity building activities. This unit also assists the National LandCare Assessment Panel, which assesses all LandCare projects for funding annually. When the projects are approved, the DoA LandCare Sub-Directorate then organizes the distribution of funds to the PDAs.

The role of PDAs

Institutional arrangements at the provincial level vary, with some modification on the structure outlined in Figure 1. The role of PDAs includes identifying, designing and assessing LandCare projects. They also manage, monitor and report on the use of NLP funds. Each province has a Provincial LandCare Coordinator (PLC). The PLCs are designated staff of the PDAs, but facilitating LandCare projects is only one of their many duties. Some PLCs have assistants to help facilitate LandCare activities, but they

also have other functions, and can only coordinate on a limited basis. The lack of support staff was a concern, but recently, however, some provincial governments have established their own LandCare sub-directorates within their PDAs.

At regional/district level, some junior PDA staff are designated as LandCare coordinators, but again, LandCare was an added responsibility. Some provinces have recognized this issue, and are now recruiting full-time regional/district LandCare coordinators.

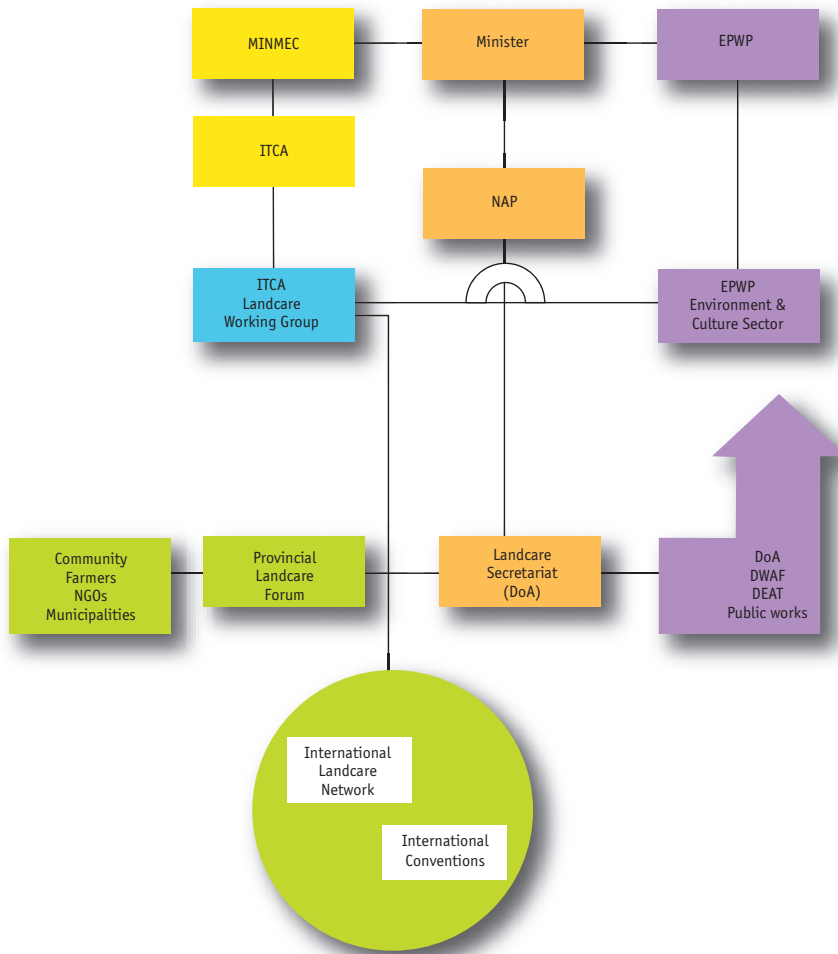


Figure 1. Institutional arrangements and linkages.

The six indivisible LandCare principles

To maintain the integrity and identity of LandCare, South Africans have enunciated six indivisible principles of Landcare. Drafting these principles was a long, complex and tedious process, including consultations and workshops organized from the local to the national level, ably facilitated by consultants of the ISDA project. Where initiatives do not include and integrate all these attributes, where relevant, they are not consistent with LandCare policy, and thus cannot be said to be truly LandCare.

- 1 *Integrated sustainable natural resource management* embedded within a holistic policy and strategic framework, where the primary causes of natural resource decline are recognized and addressed.
- 2 *Fostering group or community-based and -led sustainable natural resource management* within a participatory framework, including all land users both rural and urban, so that they take ownership of the process and outcomes.
- 3 Developing *sustainable livelihoods* for individuals, groups and communities utilizing empowerment strategies.
- 4 Government, community and individual *capacity building* through training, education and support mechanisms.
- 5 Developing active and true *partnerships* between governments, LandCare groups and communities, non-government organizations and industry.
- 6 Blending appropriate upper level *policy* processes with bottom-up feedback mechanisms. These mechanisms should utilize effective LandCare institutional frameworks to give voice to LandCare programme beneficiaries and supporting participants.

These principles were applied as qualifying criteria for funding LandCare projects. If a LandCare project cannot address all these principles, either because not all are relevant, or because some issues are outside the control of the project, they should have been considered in the project planning phase.

LandCare partners

A major strength of LandCare is that it seeks and fosters strong partnerships that build synergies. Partnerships built around synergies are mutually beneficial. In South Africa, broad-based partnerships in LandCare exist among government departments, research and educational institutions, NGOs and the business sector. LandCare is benefiting greatly from these partnerships. Two partners, ABSA Bank and Eskom Foundation, have funded the Female Farmer Awards. Today, stakeholders and partnerships in LandCare have expanded tremendously, to jointly implement LandCare projects within a suite of relevant programmes (table 1).

Current LandCare partners

- Rural and urban land users and owners
- Farmers' unions, such as the National African Farmers Union and AgriSA

- Research organizations, such as ARC, CSIR and universities
- The Department of Science and Technology (DST)
- Environmental and development NGOs
- National Department of Agriculture (DoA)
- Provincial Departments of Agriculture (PDA)
- Department of Water Affairs and Forestry (DWAF)
- Department of Environmental Affairs and Tourism (DEAT)
- International funding donors
- Provincial Departments of Education (PDE)
- Commercial and industry groups, for example from agriculture, forestry and mining
- Local Government Municipalities (LGM)
- Department of Land Affairs (DLA)
- The Land Bank (LB)
- Department of Provincial and Local Government (DPLG)
- Educational institutions
- Independent Development Trust (IDT)
- Development Bank of Southern Africa (DBSA)
- Department of Foreign Affairs (donor funding)
- National Treasury and the Department of Finance (fund allocation and donor funding)

Table 1. Current LandCare programmes of various government departments and partners

Programmes	Main Implementing Department
Working for Water	Department of Water Affairs and Forestry
Community forestry	Department of Water Affairs and Forestry
Desert Margins Program	Department of Agriculture
Comprehensive Agricultural Support Programme (CASP)	Department of Agriculture
Working on Fire	Department of Water Affairs and Forestry and Provincial and Local Government
Working for Wetlands	Department of Environmental Affairs and Tourism
CoastCare	Department of Environmental Affairs and Tourism
Community-Based Natural Resource Management	Department of Environmental Affairs and Tourism
Food Security Programme	Numerous
Disaster Management	Department of Provincial and Local Government
Land reform including LRAD	Department of Land Affairs
Environmental guidelines for land reform	Department of Land Affairs

Furthermore, South Africa has Africa-wide commitment to the New Partnerships for Africa's Development (NEPAD) and the African Union, as well as the South African Development Community agreements on environment and development.

Besides local partnerships, there is considerable potential for LandCare to develop beneficial international partnerships as demonstrated by the links between Australia and East Africa. Australian Government support for LandCare in South Africa has been strategic, providing valuable advocacy and institutional strengthening. Landcare originated in Australia, so this was an obvious partnership, but as it spreads internationally to other countries, other partnerships are also developing, for example, the African Landcare Network (ALN) with allied African countries promoting the Landcare approach to environmental governance throughout Africa.

International Conventions

LandCare also helps fulfil South Africa's commitment to various international conventions, such as the Convention to Combat Desertification (CCD), Framework Convention for Climate Change (FCCC), Convention on Wetlands of International Importance (RAMSAR), Land Degradation Assessment in Drylands project (LADA) and the Convention on Biological Diversity (CBD).

Convention to Combat Desertification

LandCare has particular relevance to CCD because both address similar issues. LandCare is highlighted in the South African National Action Programme as a national strategy for combating desertification. The Department of Environmental Affairs and Tourism (DEAT) coordinates and implements international conventions, including CCD, RAMSAR, FCCC and CBD.

Land Degradation Assessment in Drylands

LADA generates up-to-date ecological, social, economic and technical information, combining traditional knowledge and modern science, to guide integrated and cross-sectoral planning and management of dryland areas. It also responds to the needs of the joint work programme between the CBD and the CCD on dry and sub-humid lands. It was fully endorsed by the fourth session of the Conference of the Parties (COP4) of CCD in Bonn, Germany in 2000. The DoA is the lead agency in delivering the goals of LADA.

LandCare and land reform objectives

The provincial LandCare programmes have developed partnerships with the Comprehensive Agricultural Support Programme and Water and Food Security Programme. Examples of productive partnerships include LandCare projects in the Free State, KwaZulu-Natal and Western Cape provinces. These partnerships were mutually beneficial; LandCare addresses awareness and capacity building while Land Reform projects focus on infrastructure.



Fencing off and revegetating a 'donga' or eroding ditch

Women collecting stones for rehabilitation works.



Mlondo 21 Veld Landcare project.

Land reform is an extremely important political and economic empowerment tool, and a policy issue in South Africa. LandCare can significantly contribute to the Land Reform Programme if appropriate policy and programme linkages can be developed (Prior and von Maltitz 2003). Land reform aims to redistribute ownership of 30% of the currently white-owned commercial farms to black farmers over the next 15 years (Mpofu 2004). Land redistribution grants have several land tenure models, from large communal ownership to small groups and individual ownership. Once land tenure is given to beneficiaries, in this case, mostly black farmers, the Department of Land Affairs passes the responsibility for agricultural extension to the DoA. The majority of black farmers need new skills to manage their natural resources and commercial farming enterprises. The lack of skills, knowledge and financial capital of Land Reform beneficiaries is of particular concern to the government. Two key outcomes that

LandCare contributes to Land Reform are the extension of, and training in, grazing and profitable farming systems and the individual and community capacity-building strategies that may be achieved through taking a livelihoods approach to human development (Prior and von Maltitz 2003).

Correspondingly, the land reform process also contributes to LandCare. Control over land management activities and land tenure reform are recurring themes within the LandCare programme. Communities find that their natural resource management decisions and strategies are often threatened or disadvantaged by uncertainty of land tenure. The land reform process ensures security of land tenure and control over resource management for LandCare project participants. Synergy is established through improved cooperation between the two programmes at both policy and project levels. When land ownership is transferred, communities take responsibility for managing and investing on infrastructure development on farms.

Accomplishments under the LandCare programme

The institutional arrangements and strategies outlined in the LandCare policy framework encourage sustainable flow of financial support for LandCare. Communities and PDA staff are now able to differentiate the LandCare approach from previous, conventional approaches.

In addition to government support to LandCare projects, there are remarkable activities initiated by LandCare project participants. Notable examples include students' involvement in school vegetable gardens and the establishment of the Maphake Resource Centre in the Mamehlake area, Mpumalanga Province.

Another successful project is Junior LandCare in both primary and secondary schools. Among many successful Junior LandCare programmes is the Badimong Primary School in Limpopo Province. It has been involved in rehabilitating a nearby wetland to irrigate the school's vegetable garden. An important feature of the LandCare approach is the promotion of the LandCare ethic through various activities, for example Landcare Awareness Week.

LandCare has acted as a catalyst in development programmes. In most provinces, the momentum of LandCare initiatives is well maintained as part of provincial strategic plans, and incorporated into the three tiers of government plans—local, provincial and national. Furthermore, there is evidence of improved understanding of, and a growing recognition that, participatory community development processes can effectively deal with natural resource management and livelihood issues. Finally, funding for Landcare projects is increasing at national and provincial levels, especially because new institutional arrangements for supporting LandCare are underway (table 2).

A holistic approach for identifying LandCare projects at provincial level is applied, with several provinces adopting the concept of area-wide planning. Various LandCare activities such as rehabilitation and sustainable management are carried out by and with all stakeholders in project areas. These are often on a sub-catchment basis involving

both small and large-scale commercial farmers and smallholder farmers, working together to address common problems. Improved institutional arrangements within the provinces tremendously helped the NLP to succeed. For instance, both Limpopo and Western Cape provinces have dedicated LandCare sub-directorates responsible for promoting and implementing LandCare within their provinces. Stakeholders are committed to participatory approaches, not only when implementing projects at community level, but also in allocating funds for national and provincial activities. A workshop held with provincial staff involved in promoting Junior LandCare defined national activities for the 2006-07 financial year.

Table 2. Funding the national LandCare programme

Year	National projects (rand)	Provincial projects (rand)	Annual total (rand)
1998/99	—	24 999 531	25 000 000
1999/00	1 101 300	18 898 700	20 000 000
2000/01	4 485 126	20 514 874	25 000 000
2001/02	2 598 991	22 401 009	25 000 000
2002/03	1 000 000	24 000 000	25 000 000
2003/04	2 000 000	38 000 000	40 000 000
2004/05	32 900 000	27 100 000	60 000 000
2005/06	25 000 000	40 000 000	65 000 000
2006/07	23 500 000	44 500 000	68 000 000
1998–2007	92 585 417	264 414 114	356 999 531

The primary aim of creating livelihoods continues to receive attention, but has moved from just creating jobs through LandCare projects, to supporting the development of rural entrepreneurs. This is implemented through the Expanded LandCare Programme, which focuses on eco-technologies and agro-tourism projects.

The coordination and involvement of government directorates has led to creation of project assessment panels at both provincial and national levels, ensuring better coordination and complementarity of efforts and resources. For example, the LandCare programme now gets support from the Comprehensive Agricultural Support Programme (CASP).

However, the initial accomplishments mentioned earlier were not without challenges. Despite the support of national and provincial governments for LandCare, some individuals remain unchanged and have little commitment to LandCare. The limited support of some provincial management staff could be attributed to the organizational culture of the PDA. Many PDA staff are yet to appreciate participatory approaches and the need to transform conventional practices towards community-driven approaches. Furthermore, providing training and mentoring provincial staff to

facilitate LandCare Fora and projects remains a challenge since this entails mobilizing funding and contracting suitable training providers.

Finally, the success of the LandCare movement and the NLP requires investment in institutional development processes, such as the formation of LandCare groups and forums at local, provincial or national levels. Highly skilled and committed provincial and national staff of the DoA are needed to enhance this process.

Lessons learned and recommendations

Many lessons have been learned and addressed through Landcare, and are discussed in turn.

Community ownership. Instilling community ownership of LandCare projects is a long process. In some cases where local people have not fully assimilated the objectives of LandCare projects, infrastructure built within these projects is at risk; for example fences were destroyed or stolen. These projects were less regarded by community members who continue to doubt the sincerity of the government and feel marginalized. They perceive LandCare projects as part of the peace-making strategy of the government. The lesson learned from this experience is that emphasis on livelihood improvement in LandCare projects should be coupled with continuous education and value transformation.

Technical support. Effective partnership with technical experts and combining local knowledge is crucial to achieving quality project outcomes. In some cases, project formulation was limited and did not benefit from sufficient technical input and thorough analysis of landscape conditions by technical experts. This resulted in poor project outcomes, with some conservation structures exacerbating soil erosion. The interface of research and action in LandCare is hugely important.

Better planning. Area-wide planning is increasingly adopted in large regions and districts, yet its effectiveness needs proper assessment. In some cases, only the symptoms of catchment-scale problems are being addressed. The magnitude of problems and the complexities associated with partnership-building and stakeholder involvement at that scale remain unchanged. Hence, large-scale projects need to be complemented with smaller, but still effective projects to address the short-term economic goals of the rural poor.

A broad assessment

The South African experience in implementing LandCare, initially through a top-down approach, offers a good lesson for other countries interested in developing their own Landcare programmes. Apparently, it was right for the South African government to start from the top, while it was trying to demonstrate its sincerity to invoke democracy through genuine community participation after the apartheid regime. From the government side, building confidence in employing democratic governance is not a seamless process, in the same way, as it was hard for communities historically denied democratic rights to simply

trust the government. But through the LandCare Programme, the South African government has demonstrated its ability to take crucial steps and create necessary shifts towards improving public service and democratic governance. Top-level management and political support from the central government are needed, primarily to provide the general framework and strategic support for LandCare, but detailed planning on local specificities should be done with, and by, local communities so that the projects can truly serve their needs and are owned by them. Without it, the enthusiasm and commitment of local communities can easily dissipate. Furthermore, one of the main advantages of the LandCare approach is in the ease of monitoring, reporting and evaluating impacts. People are more likely to get involved when they have greater sense of responsibility for their actions, and accountability for project outcomes. As a result, the impacts and outcomes of activities and projects are more easily measurable by local people.

Finally, LandCare in South Africa is proving to be a suitable vehicle for addressing complex problems in common lands. Resource degradation on such lands has been a major concern to many South Africans. The key is for communities to own their land, acknowledge the scale of degradation and, by clearly understanding the underlying causes of degradation, find suitable solutions based on consensus. With strong government support and local community partnerships, LandCare is taking strides in helping to shape a brighter future for South Africans.

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8

Landcare in East Africa

Joseph Tanui and Diane Russell

“Redefining social movement through understanding the capacity of rural people to develop holistic actions in civil society”

This section is lovingly dedicated to the late Dr Ann Stroud who was instrumental in the AGILE-Landcare Project. Her invaluable support for the development of Landcare in East Africa will always be remembered.

Seeking sustainability for land management

The natural resource condition of East Africa (specifically Kenya, Tanzania, Uganda, Rwanda and Burundi) continues to decline despite numerous interventions and investments over recent decades. Ineffective policies and inadequate public services perpetuated the vicious cycle of land degradation and poverty, particularly in rural areas. An eroded cultural fabric coupled with inadequate implementation of environmental policies, inequitable distribution of resources, as well as unclear and often contested land tenure rights, have weakened the traditional intervention practices. A number of structural constraints are evident in past interventions. These include the lack of local-level ownership of natural resource management (NRM) initiatives, non-integration of production and conservation goals, and individualistic, self-styled and often competing approaches that disregard landscape concerns. The impetus of district governments to integrate conservation and development is also mainly untapped.

East Africa is confronted with methodological and policy constraints in mainstreaming the concept of integrated natural resource management (INRM) to

achieve sustainable development. The complexity, multidimensionality and uncertainty in livelihood systems are evident in land use and settlement patterns. In seeking sustainable land management and in building community resilience, a multi-faceted approach is needed. This approach requires policy, institutional and technological strategies attuned to the diverse and complex biophysical and socio-economic contexts in East African landscapes.

Natural resources management and livelihood programmes in sub-Saharan Africa, including East Africa, face a formidable challenge as most rural communities have remained poor and food-insecure in the aftermath of widespread macroeconomic, political and sectoral reforms that have largely failed to stimulate significant improvement in agricultural productivity (Barret et al. 2002). Currently a wide range of traditional and modern techniques for effective NRM and documented best practices exists. However, environmental degradation proceeds at high rates, reflecting in large measure disturbingly low adoption of sustainable NRM strategies, especially among smallholder producers. Typically, smallholders are subject to many forces: population pressures, pervasive poverty, maldistribution of traditional farmlands, inequitable land tenure systems and inadequate attention to subsistence agriculture, adverse trade and aid patterns and the burden of international debt (Myers 1989).

The highlands of East Africa run through Kenya, Uganda, Ethiopia, Rwanda, Burundi and northern Tanzania. The highlands cover about 23% of the land area and support about 53% of the population in the region (Hoekstra and Corbett 1995; Alumira and Awiti 2000). In Kenya and Ethiopia, the percentage of the population residing in the highlands is 50% and 81% respectively, indicating a huge challenge to sustaining livelihoods. There have been several studies on land degradation in sub-Saharan Africa that indicate that continuous cultivation with low external inputs has resulted in rapid decline in soil fertility and crop productivity (Vlek 1990; Bationo et al. 1998; Scherr 1999; Deininger and Okidi 2001; Pender 2004). In studies that have combined measured soil degradation with estimated effects of soil erosion, the cost of soil erosion in Kenya is calculated to be equivalent to 3.8% of the gross domestic product (GDP). These findings are further supported by the 2005 Millennium Ecosystem Assessment report which provides some evidence that land productivity has stagnated or decreased across large areas in Africa. In many instances land degradation is cited as the major cause of low production resulting in malnutrition and poverty.

Natural resource management problems are considered both a cause and consequence of the ills that beset the region. With poor infrastructure in remote areas, increases in population are concentrated in rural centres resulting in high-density settlement. Farm sizes are becoming smaller and fragmented, averaging between 1–2 hectares. In western Kenya, the average farm size is estimated to be half to one hectare, while the 1991 agricultural census in Uganda indicated that more than 1.2 million of the 1.7 million rural holdings were one hectare or less.

Considerable time and substantial resources have been used by researchers and practitioners to develop new farming technologies and NRM practices in collaboration

with local farmers and partners. But these have not succeeded much in increasing agricultural productivity, ensuring food security, or improving rural incomes. The rates of adoption of improved NRM practices have fallen short of expectations despite the fact that a wide range of traditional and modern techniques exist. However, degradation of soil and other natural resources are not only attributable to low adoption rates of sustainable NRM practices by smallholders. Increasingly, the development of large-scale commercial agriculture and indiscriminate conversion of lands, have alienated communal or trust lands, and worse, deprived local communities of environmental services derived from forests and catchment areas.

In the East African countries, land management is housed under the Ministry of Lands. However, the ministry does not cover the full extent of land issues, which are inextricably linked to other sectoral concerns. These include agriculture, environment and natural resource management, urbanization, infrastructure, migration, water and wildlife management. The most effective way of implementing land management policy requires a multi-sectoral approach and inter-ministerial coordination. With government decentralization, it is expected that NRM strategies can be responsive to local needs. However it is not the panacea for effective NRM, it is only the beginning. Communities need to be empowered to deal with more complex issues involved in localized governance. There is also a need for institutional arrangements compatible with participatory processes, and the provision of negotiation support at various levels of decision making.

The East African states are at a crossroad when it comes to land rights and resource use issues. This situation can be traced back to historical governance processes pursued by the colonial (in the case of Kenya, Uganda and Tanzania) and post-independence leaderships, during which the systematic de-legitimization of traditional institutions and governance systems and the imposition of a western legal system brought with it great turmoil. Traditional systems weakened and suffered from legitimacy crises among communities. This had drastic implications including internally displaced communities, conflicts between different livelihood systems such as pastoralists, wildlife and agro-based communities, and land fragmentation to uneconomical levels amid large tracts of land owned for market speculation purposes (otherwise termed as idle land) by the 'landed gentry'.

The AGILE project: a window for Landcare in East Africa

Since 2001, the World Agroforestry Centre (ICRAF) has implemented the African Grassroots Innovation for Livelihoods and Environment (AGILE) project through its ecoregional programme, the African Highlands Initiative (AHI), and partners, with funding from the government of Italy. The main goal of AGILE was to test an approach to collective action for NRM in East Africa. The project aims to obtain insights into grassroots institutional innovations for NRM and livelihoods in Africa, by drawing on knowledge gained from previous successful projects. Having learned about the success



Eucalyptus woodlots reduce gully erosion and augment farm income.

of the Landcare approach in various parts of the world, particularly the Philippines and Australia, ICRAF scientists aimed to test the applicability of the Landcare concept in East Africa by training facilitators on the Landcare approach. In this way Landcare was 'inserted' into the AGILE project and implemented in three pilot districts in Uganda: Kapchorwa, Kabale and Bundibugyo.

Two key questions were asked about integrating the Landcare approach into the AGILE project:

- Could Landcare provide an inspiration to local communities and improve their NRM efforts?
- Could the introduction of Landcare be structured to build on African initiatives, innovations and existing institutions?

Baseline and case studies were undertaken, including literature reviews on global, regional and national land management issues and experiences on collective action in NRM, followed by in-depth studies at the project sites. The studies included a national-level research effort on collective action and grassroots innovations in Uganda (Johnson 2002), site-specific studies on community land management in Mount Kenya region (Tanui 2003) and western Kenya regions (Mango 2002), as well as a national level institutional inventory of NRM-based organizations in the region.

The first steps of the AGILE approach include a process for understanding and positively influencing the mindset of farmers, policy makers, government representatives and partners (such as non-governmental organizations) on the interrelationship between land use, livelihoods and environment. Landcare experiences in different regions were used to distil success factors and barriers to adoption of land management practices. The stakeholders were then engaged in dialogues on land degradation and on the possibilities of inculcating the Landcare principles in their land-management activities. This process is outlined in the box below.

Steps in exploration and implementation process

- 1 Survey cases of African AGILE experiences: synthesize to uncover potential success factors and conditions, barriers and challenges.
- 2 Scope the institutional landscape to understand the approaches, roles, linkages, opportunities and shortcomings at various levels.
- 3 Seek exposure to Australian and Philippines Landcare.
- 4 Use the main premises in Landcare – start work in three pilot districts and selected community groups to identify ways to add value to the existing institutional landscape and activities using the AGILE principles, and facilitate action plans to build on local assets and initiatives.
- 5 Hold a national workshop bringing together institutional and community representatives working at different levels to share experiences, perceptions, needs and opportunities. Landcare expertise from elsewhere augmented local experience and provided an impressive vision to aim for.

Findings of the study

Initial findings of the study revealed a quiet but powerful land management revolution in progress. This revolution was about informal networks of neighbourhood groups working together to improve the management of their private properties and public lands. Small groups formed to combat environmental problems such as soil erosion, wetlands or riverbank degradation and loss of biodiversity. These groups were voluntary and depended largely on internal financing. They learned from one another, and sometimes sought external assistance including government and non-governmental resources and services.

The study identified insights into the following:

- community assets, gaps and livelihood and environmental conservation issues;
- institutional dynamics, relationships and methods being used to work with communities and local groups;
- dynamics of community interest groups in relation to projects, government initiatives and other opportunities; and
- the influence of broader policy at the local level.

These insights pointed out possibilities for an African variant of Landcare. The initial hypothesis was that a functional strategy for sustainable development calls for a people-centred and community-led approach in land management. In this situation, all categories of community members, governments and development partners come together to resolve both local and national problems, motivated by the positive cultural aspects of African solidarity. A collective action of such magnitude can provide

opportunities for local institutions to attain organizational strength, increase participation and promote greater social inclusion. It can provide avenues for integrating various development components by anchoring on a knowledge-intensive development process. Clearly, improved NRM should not only be about preserving the quality of resources to safeguard the livelihoods of future generations, but also about increased productivity and incomes and empowerment of local people and the institutions that support them. Finally, the study points out that sustainable land management requires innovative strategies that recognize African agro-ecosystems and economic and cultural contexts.

The emerging lessons in the AGILE project assisted the evolution of Landcare in the region. Landcare, based on the Philippines experience², is an approach that rapidly and inexpensively diffuses agroforestry and other technical practices related to NRM and livelihoods among thousands of farmers (Garrity et al. 1998). In East Africa, Landcare is viewed³ as an approach that facilitates the development of a movement led by grassroots communities to hasten livelihood and environmental wealth and spreads through the energy of individuals, communities and supporters. It is considered a platform for autonomous farmer-led organizations concerned with the long-term health of the land, sharing knowledge and innovations, influencing policy and acting as a broker for services for other conservation and livelihood opportunities. In comparison with many NRM projects that tended to be site-based, expensive and rigid, Landcare in East Africa is likely to bring about significant NRM improvements in a cost-effective manner.

The development of the Landcare approach builds upon the fact that a number of African countries are already in the process of democratization and decentralizing extension. Some institutions had already embraced the farmer-to-farmer approach, which is increasingly seen as a more effective way to reach a larger number of poor farmers. Soil and water conservation approaches have been applied in a participatory way by many institutions, such as Kenya's National Agricultural Extension Programme (NALEP), Uganda's National Agricultural Advisory Service (NAADS) and Tanzania's Participatory Agricultural Development and Empowerment Project (PADEP). These trends were largely positive, but not enough to deal with the immense environmental and poverty challenges. Still, these institutional overtures are grappling with moving small-scale agriculture from subsistence to commercial scale in a sustainable way. However, local collective actions with effective support from governments are seen to have the most potential in addressing livelihood and environmental issues. The reason for this is that many community-based NRM efforts are project-oriented, with costly investments but with limited success. Many successful local or indigenous NRM strategies have remained local—they are effective in one area but they have failed to percolate through society. There are several reasons for this including:

- governments failed to support the expansion of local successes because they are location-specific; and
- in many projects, there was little training of farmers and community members to improve their capacity for action.

Engagement process in the pilot districts

The district efforts were initiated through the AGILE community level process framework illustrated in Figure 1. Based on the issues emerging from the studies, discussions were held with invited community members and other stakeholders. The community activities included the ‘appreciative inquiry’ approach, which builds upon identified local assets. Community level discussions were geared towards reaching a common understanding on land degradation issues, as well as assessing the level of knowledge of environmental conservation practices. The discussions set in motion a community action planning process.

The outcomes of the scoping study under the AGILE project were used to further define the Landcare approach in the African context (table 1).

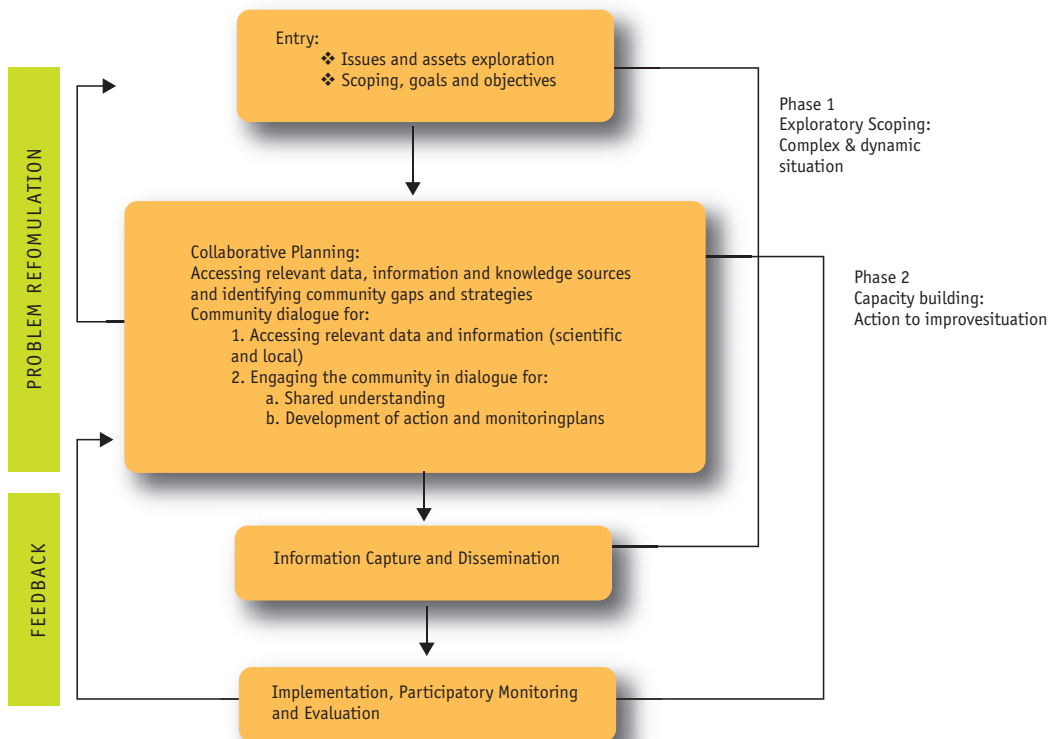


Figure 1. Conceptual framework for community interactions in the pilot districts.

Table 1. Outcomes of AGILE's scoping process

Specific objective	Outcome
Research	
Participatory site-level problem identification and prioritization	Enhanced grassroots-level information on livelihoods as a basic requirement for developing site-level interventions. A basis for community intervention created.
Definition of best practices in collective action and land management	Developed criteria for promising practices in collective action for improved land management. This informed AGILE's visioning process.
Process evaluation in the development of the AGILE concept	Developed principles of Landcare in Africa, a process-oriented publication developed to assist in scaling up.
Facilitation and coordination	
Awareness creation and constituent building	Partners identified at local, national, regional and international levels. —At local site levels, working with various local-level partners in Kabale, Kapchorwa and Bundibogyo Districts. —At the national level, seeking partners to develop Terms of Reference for a national AGILE steering committee are being drafted.
Identification of champions of Landcare and their involvement in AGILE activities	Individuals identified amongst collaborators; discussions held on further development and implementation of the AGILE concept.
Moderate e-mail discussion group for communities of practice	Information and experiences on land use and collective action discussed and used to inform the development of AGILE.
Capacity building	
Hold meetings with farmers and site-level stakeholders	Through appreciative enquiry an agenda for planning further discussion was developed.
Hold site level stakeholder planning workshops	The planning workshop paved the way for the deliberate involvement of communities at site levels in environmental conservation activities.
Facilitate cross-site learning and identify site-specific capacity building needs	Farmer groups from the sites are exchanging learning visits.
Facilitate the development of national AGILE steering committee	Protocol for the national steering committee developed; backstopping provided to facilitate formation.



Meeting with farmers and stakeholders.

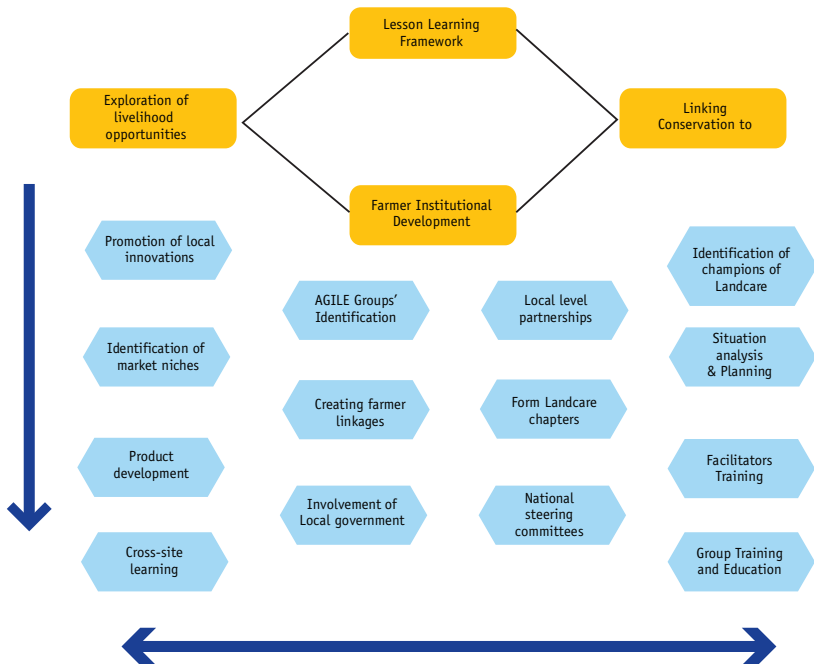


Figure 2. Schematic diagram of the AGILE development model.

Developing a research agenda for implementing the Landcare approach

The challenges faced at the project's inception yielded new insights and also further questions about the development of Landcare in the three pilot sites of Kabale, Kapchorwa and Bundibugyo districts in Uganda, as well as scaling-up activities nationally. Further questions arose related to the generation and application of lessons learned at regional level and prospects for developing synergies at the international level.⁴ The use of valuable insights into grassroots institutional innovations for NRM, and lessons learned from Landcare in the Philippines, Australia and South Africa, guided the development of a Ugandan AGILE model. The AGILE model involved selecting NRM strategies that were locally relevant and feasible, identifying and networking community level innovations and addressing the vexing problems of 'sustainability' in NRM initiatives. The attainment of these objectives depends on local farmer group involvement, developing rapport with partner institutions, and collaboration among civil society organizations and local and national governments to improve their support for farmer groups and their innovations. Though efforts in this regard appear daunting, the emergence of Landcare champions (individuals who volunteer, belong to various local organizations, and who firmly believe in the Landcare principles) boosted the process. A model (figure 2) for the Landcare approach in Eastern Africa gradually shaped up.

As illustrated in Figure 2, the development of the AGILE concept is hinged on four pillars of learning (the linked boxes), which are: 1) exploration of livelihood opportunities; 2) farmer institutional development; 3) linking conservation to development; and 4) a lesson-learning framework to be developed and used at the various levels of implementation.

The learning pillars guided the facilitation of Landcare activities. The 'lesson-learning framework' draws lessons from field activities to further influence the development of objectives based on identified outcomes. The unlinked boxes constitute the Landcare activities being facilitated and these fall under specific learning pillars, other than the lesson-learning framework which applies to all.

Key impacts in the pilot districts

Applying the Landcare approach through the AGILE concept to stimulate collective action in NRM and land management has had impressive results over a short period. The involvement of local governance processes at all community levels has provided crucial support in empowering farmer institutions. As the farmer groups coalesce into larger, more integrated and complex institutions, the role of local governments in providing an enabling policy support mechanism has become crucial. Local government has thus legitimized the emerging local institutions, which made it easier for them to approach other development organizations. Local government support also enabled the farmer institutions to target long-term goals.

The role of local government in supporting the development of the Kapchorwa Landcare chapter (KADLACC) in Uganda is described below.

The case of Kapchorwa District Landcare Chapter

Kapchorwa District Landcare Chapter (KADLACC) is an alliance of institutions involved in land issues. Such institutions broadly include NGOs, farmers groups, faith-based organizations and district and sub-county local governments. It is an innovative platform that enables local-level institutions who share in Landcare principles to address natural resource and livelihood issues in the district. The development of the platform was facilitated by the following factors:

- Organizations implementing NRM activities in the district were looking for a platform to regularly exchange views on conservation and livelihoods.
- Individuals and stakeholders were willing to volunteer their time, especially during the planning and consultative processes.
- Existing groups/institutions involved in NRM activities formed the basis of the chapter.
- Support from AHI and local government for the planning process, where the ‘appreciative inquiry’ approach was used to develop a feasible plan of work-based action on Landcare principles, namely:
 - * Shared conservation ethics and philosophy practices
 - * Local ownership/involvement (that is, local issues, resources and solutions)
 - * Flexibility and adaptability at all levels
 - * Volunteerism, and dependence on partnership
 - * Sustainability (triple bottom line) stewardship, profitability, people and community
 - * Encouragement and capacity building by AHI on Landcare philosophy through training and exposure visits
 - * Cooperation and involvement of the local government in the formation stage

Many different partners work together to encourage complementarity and synergy. Farmer institutions therefore develop a more integrated view of solutions and provide a more complete set of information for prioritization and decision making. This enables farmer institutions to move towards the more critical role of linking wealth creation to environmental conservation goals as outlined below.

Empowering communities to negotiate for inclusion and benefit sharing

Kapchorwa District has several institutions that support the right of poor farmers and marginalized groups to proper land-use management, access and control. These institutions broadly include local government departments, NGOs, Community Based Organizations (CBOs) and research organizations. There is a growing demand for a forum that brings together stakeholders engaged in land use, access and control. Repeated failed attempts have resulted in unmet expectations and created frustrations in communities. There are critical issues affecting access, control and use of land by the poor and marginalized sections of the community. This has affected the forest dwelling Benet community that traditionally lived in the protected area. The majority of these people are currently internally displaced. Issues include:

- Inadequate information among stakeholders, especially the Benet community, with regard to access and sharing.
- Inadequate participation of the poor and civil society organizations in the formulation, implementation and evaluation of site-level and district-level policies and programmes.

- Lack of pro-poor policies. The creation of the protected area (Mt Elgon National Park) did not consider the plight of the Benet community, many of whom were subsequently disenfranchised.
- Inadequate capacities among stakeholders to critically analyse land situations and therefore design appropriate interventions and assessment mechanisms.
- Poor bargaining position for the Benet and hence their inability to lobby for their inalienable rights.
- Imposition of protected area boundary and expulsion of the Benet from Mt Elgon National Park.
- Shifts in livelihood strategies; land pressure in buffer zone; breakdown in communication between communities and conservation agencies/policies.

Steps in participatory action research

- Situational analyses identified livelihoods in decline and that prior efforts were unsuccessful due to failure to address policy issues.
- An exploration into the contradiction between national policies and local-level implementation.
- Visioning and consensus-building carried out around future desired state, assuming bottom line of protected area with high biodiversity (a pre-condition to negotiations).
- Negotiation of agendas between Uganda Wildlife Authority (UWA) and community representatives on possibilities for co-management.

Emerging outcomes

- Dialogue between UWA and Benet communities has been re-established.
- Local government involvement in seeking livelihood opportunities and investment through co-management.
- Both sides see opportunities (livelihoods, conservation) through re-definition of custodianship (UWA, community, local government).
- Equity focus of Participatory Action Research (PAR) has enabled local interest in income generation among most marginalized groups, for example apiaries for women.

Developing Landcare in East Africa and beyond

The launching of Landcare International (LI) in 2004 to promote the Landcare approach at the global level provided the opportunity for extending the work that had started in Uganda to other countries in the East African region, such as Kenya, Tanzania, Ethiopia and Rwanda. A regional Landcare framework enables the development and utilization of synergies across countries and provides opportunities for linking Landcare to various regional or continental development processes. With support from the Australian government through AusAID, Landcare research and capacity building in Kenya and Tanzania commenced in April 2005.

With modest resources, the project facilitated knowledge exchanges between South African Landcare practitioners and their East African counterparts. Country Landcare teams in Kenya, Tanzania and Uganda were created to help build national capacity for Landcare. The team members involved individuals interested in sustainable development and who represent various institutions including the national agricultural research systems, international research centres, NGOs, government agencies, community-based organizations and representatives of farmer organizations. Later in 2006, the AHI extended support to initiate Landcare research and capacity-building for

partners in Ethiopia. This effort was followed by several Landcare presentations in Rwanda, which resulted in seeding activities for the development of a Landcare programme in two districts. In summary, some milestones were achieved in scaling up Landcare in Africa, including but not limited to the following:

- the identification of good lessons from sites in Uganda;
- the processes used in South Africa, the Philippines and Australia including capacity building and awareness creation;
- capacity development for Landcare in Kenya and Tanzania, and later Ethiopia and Rwanda. The capacity development involved training and visits to Landcare sites in Uganda and South Africa;
- development of much closer ties with Landcare South Africa culminating in the formation of the African Landcare Network (ALN);
- support generated from AGILE for regional training held in Uganda, involving various East African partners, which resulted in the development of a facilitators guide;
- carrying out policy and institutional studies for the development of Landcare in East Africa;
- attending a Master Class for Landcare in Australia;
- support generated by the African Highlands Initiative for local level Landcare training in four countries; and
- the development of national-level Landcare programmes in Kenya and Tanzania.

Lessons learned and moving forward

The inception of Landcare in East Africa followed an action-research and capacity-building process, to better understand the socio-economic, cultural and policy contexts within which the Landcare approach can successfully thrive. This was seen as a necessary process to create a gentle introduction of Landcare, and to generate a demand for it, amid a plethora of conventional NRM approaches in the region. The study results provided useful insights in the development of Landcare East Africa. The key lessons are discussed in turn.

- Building capacity for Landcare through dedicated champions/individuals is possible with modest resources by allowing for a natural process of assimilation and commitment building.
- In general, the introduction of Landcare in the region does not necessarily require new government policy backing as it can be mainstreamed or adapted within existing NRM strategies.
- The pathways for integrating Landcare vary according to local or national circumstances, making it more attuned to diverse realities on the ground.
- Taking advantage of complementary resources among those involved is fundamentally important, especially where external project monies are scarce.



The support of South African Landcare in establishing the African Landcare Network (ALN) provides ample scope for further development of Landcare in the region. The ALN, which is currently constituted with members from Kenya, Uganda, Tanzania and South Africa, aims to promote Landcare throughout Africa as a complementary approach to resolving many of the environmental and poverty issues that African countries share, and in meeting the Millennium Development Goals. It aims to provide leadership in advocating Landcare in regional or continental development initiatives, and in building national and regional capacity. The ALN

further envisaged Landcare could take root in conflict-laden African countries where poverty and armed struggle are most severe. The timing of Landcare in African landscapes is propitious, where many African societies are becoming more open to innovative approaches as they brace themselves to achieve the multiple goals of sustainable development.

Notes

- ¹ Integrated natural resource management (INRM) embodies further dimensions and principles for improving NRM and livelihoods: inclusion of and improved links between multiple stakeholders—including their perceptions, needs, opportunities and positions; strategies formulated and adopted to better balance environment, economic growth, equity, and governance goals; institutional arrangements and linkages within organizations and between various actors are facilitated so as to foster better coordination, synergies and information exchange resulting in sustainable development; processes, institutional and technological innovations and policies are promoted that contribute to local ownership and stewardship; and building upon local assets (financial, physical, knowledge and skills) promotes self-determinism and limits dependency.
- ² ICRAF has been working with Landcare groups in the Philippines for more than a decade. This robust and dynamic movement involves more than 300 groups from 5 municipalities in northern, central and eastern Mindanao.
- ³ This reflects understanding of the approach by the Landcare East Africa team members.
- ⁴ This is especially so with countries that have already implemented Landcare programmes such as the Philippines, Australia, South Africa and New Zealand, and also those that are in the inception stage, like the East African nations.

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9

Landcare in America

David Robertson, Christy Gabbard, Bruce Hull, Jerry Moles,
Jim Stokoe, Scott Burge, Jeff Waldon and David Lowe

Changing landscapes, lifestyles, and livelihoods

One of the greatest challenges faced by Americans today is unprecedented patterns of urbanization, especially ex-urban residential development of rural land, resulting in significant loss of working farms and forest land. Other challenges include economic restructuring and the implications for local communities of global competition for natural resources. In general the challenge for Americans, and people worldwide, is to develop Landcare management systems for the sustainable production and consumption of quality food, fibre, water and energy to meet the needs of a growing human population.

This chapter describes the Landcare movement and industry in North America, particularly in the United States where Landcare has been especially active in recent years. From the point of view of Landcare pioneers in the United States, Landcare is the next generation of land conservation and development. It is citizen-led, community-based, civic-minded and state-supported sustainable land management for the 21st century. It is about local people working together to improve local economic, social and environmental conditions through collaboration with government agencies, businesses and other key partners to achieve shared goals and common objectives that no one can accomplish alone. As such, it is appropriate for today's increasingly urban and global society. Landcare is land management for the future.

Evolution of Landcare in the United States

The emergence of Landcare in the United States follows international trends that merge social justice, economic development and environmental sustainability. Such trends are best illustrated by the Agenda 21 Report adopted by more than 178 governments at the 1992 United Nations Conference on Environment and Development held in Rio de Janeiro, Brazil. It also represents on-going strengthening of democratic processes and decentralized decision making from command and control state/federal programmes to local and market-driven solutions. Collaborative conservation tailored to local needs and fine tuned by local expertise is increasingly the norm.

This new context has produced conservation strategies now incorporated into Landcare, such as 'working landscapes' and 'triple bottom line' (3BL). Working landscapes is a strategy seeking to sustain lifestyles and economies as well as landscapes. The Nature Conservancy, for example, has established an effective programme that promotes farming, ranching and forestry as essential strategies for conserving open space and ecosystem services. 3BL accounting has become fashionable in management, consulting, investing and non-governmental organization circles in recent years in the hope that business success can be measured not just by the traditional financial bottom line, but also by its social/ethical and environmental performance. Business investments are pursued with the promise that green business is good business.

In developed countries such as the United States there exists a dense institutional infrastructure of government and non-governmental organizations engaged in local-to-regional scale land management. This runs the risk of 'Landcare' being ignored or resisted because of the tremendous institutional capacity and momentum of established conservation programmes. However, the push by the current US administration for 'cooperative conservation' provides Landcare the opportunity to be relevant to long established conservation institutions. State and federal conservation agencies are now seeking methods for collaborative conservation with local communities. These agencies need the capacity that Landcare creates to demand their expertise and seek support through their programmes. The neighbourhood-scale community Landcare groups and larger regional Landcare networks that have developed in Australia provide lessons for building the social infrastructure that facilitates institutional innovation.

As the community Landcare movement was gaining ground in Australia throughout the 1990s, a group of leaders from the United States, including key staff from the US Department of Agriculture (USDA) and partners from the corporate sector, began to take interest in the idea. This group of leaders, known as the Landcare Pioneers, has grown in number and has been a catalyst for various Landcare initiatives, hoping to spark a community Landcare movement throughout the United States and beyond. The opportunities for Landcare in the United States are many and growing, especially as partners such as the USDA and the Environmental Protection Agency (EPA) along with national associations of conservation districts, regional councils, and resource conservation and development (RC&D) councils, and various corporate partners,

continue to step forward to play a supporting role. However, it was difficult to jumpstart a grassroots movement from Washington DC. It was recognized that a community Landcare movement must grow from within one or more specific locations. Since then, local initiatives have started to spark and spread in Virginia and Philadelphia through the efforts of committed local Landcare champions. In July 2007, a meeting with Landcare partners was held in Washington, DC where a renewed commitment was made to the future of Landcare in America. Subsequently, a National Landcare Workshop was held at Virginia Tech in Blacksburg, Virginia, in October 2007 to determine the way forward for the Landcare movement in the United States.

Landcare in practise

Grayson Landcare

The New River Land Trust in southwest Virginia has been a highly successful land conservation organization in terms of the area of private land it has helped to put into conservation easements. However, the Land Trust realizes that establishing conservation easements on private lands is only the tip of the iceberg in terms of the complex problems landowners face. In light of the rising land values for residential development, keeping lands for farming and forestry is increasingly difficult for private landowners. In 2005, the New River Land Trust, with support from the Conservation Fund and other partners, secured a grant from the National Fish and Wildlife Foundation to help farm and forest landowners get organized and to improve their incomes from farming and forestry by working together for mutual benefit.

Jerry Moles was hired as community organizer of this new initiative. In a meeting of landowners and professional land managers, Jim Johnson, then faculty member in the College of Natural Resources at Virginia Tech, suggested that the way landowner groups organize to address their challenges appeared similar in form and function to the community Landcare groups that operate widely in Australia. The people at the meeting were intrigued by the Landcare idea and, after looking into the concept in more detail, decided to adopt the Landcare name and basic principles (such as cooperation and the 3BL) as organizing elements for their own work in Virginia. In 2005 Grayson Landcare was formed, and incorporated as the first 'official' Landcare group in the Americas.

Grayson Landcare is a locally organized group of farmers, landowners and residents concerned about economic and environmental problems they face in Grayson County and southwest Virginia. Grayson County has historically been an agricultural community based on cooperative and family relationships, and has a unique cultural history of more than 200 years in the beautiful Appalachian landscape. Unfortunately, rising land prices, increasing property taxes and competition from corporate farming have all threatened the security of family farms, fragmenting the country landscape and dissipating the rural way of life. Grayson Landcare addresses these challenges with the 3BL—improving economy, community, and environmental sustainability.

The goals of Grayson Landcare are to: 1) increase the incomes of citizens; 2) involve the community and improve community services; and 3) protect natural resources on which people depend for food, water and air.

The process of understanding and assimilating Landcare was both challenging and fun. Questions remain with regards to the most appropriate definition of Landcare. There were many ideas attached to Landcare, and its definitions vary depending on how individuals view and use it for their own purposes below.

Different ideas on Landcare

- Landcare is a democratic approach to community development with three goals: (1) increase the incomes of the citizens, (2) improve community services and amenities, and (3) protect the resources upon which our lives depend, our food, water and air. This is about making sure that our great great grandchildren have the same quality of food, water and air as we do while we remain secure with an acceptable lifestyle.
- There is also an ethic of civility that requires that we be open and honest in our dealings with each other, willing to listen to other points of view and, when in doubt, seek expert counsel to guide our decisions. We wish to be as well informed as possible. We wish to understand the cause and consequences of the events in our daily lives. This requires that we listen to others or else we will remain ill-informed. In the end though, we decide and it is up to each one of us to live with our consciences knowing that we have done the best possible for all concerned.
- Landcare is about feeling good about what we do and where we live. Knowing we can count on our neighbours is a tremendous advantage. Landcare is an ethic that everyone looks after everyone else.
- Landcare focuses on ventures involving both local people and local resources.
- Landcare is about building community wealth by establishing locally owned and managed enterprises. Landcare is about local economic cooperation. Landcare is about investment in local enterprises both by locals and by others outside the region aware of the value of our enterprises.
- Landcare is about bringing out the best in each of us. The best can only appear if we're willing to pause and consider the consequences of our actions, attend to what others are saying, carefully consider our direction and be responsible for our actions. In a community, people listen to each other or else there is no community.
- Landcare is rooted in the belief that ultimately each community must decide what is best for itself. Experience in Australia over the past 20 years has shown that, with the involvement of the people, communities can better serve themselves. The magic of Landcare is no magic at all. What has made the difference is that when people sit down with enough time to fully weigh their alternatives, community solutions can be found that benefit everyone.
- Landcare is everyone working together for the betterment of all.

Excerpted from a letter written by Jerry Moles, Consulting Director of Land Stewardship for the New River Land Trust and Facilitator of Grayson Landcare (2006).

The Landcare Center

Following the establishment of Grayson Landcare, the Virginia Tech faculty and administrators felt the need to organize themselves differently in order to better serve and partner with this, and similar groups of landowners, around the state and beyond.

As a result, the Landcare Center was formed as a public–private partnership initiative representing a broad coalition of local, state, national and international partners who are working together to build the capacity of the Landcare movement and industry in Virginia and beyond. The primary purpose of the Landcare Center is to facilitate the formation and development of local community Landcare groups, regional Landcare networks and innovative Landcare industries by providing information and decision support to Landcare practitioners, and serving as a conduit to existing Landcare organizations and programmes. David Robertson, a faculty member at Virginia Tech, was the founding director, with initial financial and administrative support provided by the Department of Forestry and Conservation Management Institute at Virginia Tech and the USDA National Agroforestry Center, a partnership between the Forest Service and the Natural Resources Conservation Service. As of 2007, accomplishments of the Landcare Center included:

- Introducing Landcare to the headwater regions of Virginia, including the upper James, Roanoke and New River watersheds which feed the Chesapeake Bay, Albemarle Sound and Mississippi River basins.
- Initiating innovative inter-agency and multi-institutional collaborations to develop Landcare management systems for the sustainable production and consumption of quality food, fibre, water, energy and related resources. This includes developing local food systems with the Office of Congressman Boucher in the 9th District of Virginia, USDA Rural Development, Virginia Cooperative Extension, Virginia Department of Agriculture and Consumer Services and Virginia Farm Bureau. It also stimulated a forest Landcare industry development with Virginia Department of Forestry, Virginia Cooperative Extension, and the USDA Forest Service. Furthermore Landcare bioenergy initiatives were developed with Virginia Department of Game and Inland Fisheries, Virginia Department of Mines, Minerals & Energy and private enterprises.
- Creating new jobs and business opportunities in the Landcare industry, including assisting with the development of specific Landcare enterprises such as Blue Ridge Forest Cooperative (a member-owned sustainable forest products company) and Grayson Natural Foods (a cooperative livestock processing and marketing initiative). Support has been provided by USDA Rural Development's Value-Added Producer Grants programme and the Rural Business Opportunity Grants programme. The Center is now working with partners to pursue new cooperative business enterprises emerging in the bioenergy, water and tourism sectors.
- Coordinating regional, national and international Landcare networks for learning and technology transfer of best practices, including projects such as the Headwaters Forest Landcare Partnership, 2007 National Landcare Workshop in Virginia, Victoria-Virginia International Landcare Fellowship and Tamar-Grayson Sister Landcare programme.
- Providing Landcare education and training programmes, including study tours, workshops and presentations to landowners and agencies.
- Preparing more than \$5 million in grant requests to federal agencies and private foundations to develop the Landcare movement and industry.

Catawba Landcare community meeting.



USDA Landcare study team visits Grayson Landcare.



Virginia Forest Landcare specialist discusses the value of non-timber forest products.



Catawba Landcare

In spring of 2006, Ned Yost, a second generation landowner, read a story about Grayson Landcare and the Landcare Center in the *Virginia Forest Landowner Update* and thought that the community Landcare approach would fit his situation in the Catawba and North Fork valleys of the Upper James and Roanoke River watersheds. In the summer of 2006, residents of these valleys, including conservation easement donors, organized the neighbouring landowners to discuss practical steps on sustainable land management. They approached the Landcare Center and the New River Land Trust to present information on Landcare and land conservation practices. The three basic principles of Landcare (improved social networks, economics and the environment) resonated with many of the participants. Subsequently, Catawba Landcare was formed and a community-based conservation and development approach to land management and natural resource stewardship has emerged in this region.

Christy Gabbard serves as the first Landcare facilitator/coordinator for Catawba Landcare to provide inter-agency coordination and facilitation among participants. This led to the development of a strategic plan, and a great deal of work has been accomplished in a short period, including partnerships with leaders from neighbouring Roanoke and Montgomery counties to create a more cohesive picture of value-added products that can be marketed through Landcare initiatives. Catawba Landcare also works with the Conservation Management Institute and students from the Roanoke Valley Governor's School to address the problems of stream management. Stream bank classification data were collected and paired with corresponding landowner parcel data in a geographic information system and used to quantify degraded stream reaches. Catawba Landcare has cooperated with the Virginia Department of Game and Inland Fisheries' Landowner Incentive Program to improve water quality and stream habitat for the native trout population in the Catawba and North Fork valleys. These activities have benefited downstream reservoirs of the City of Roanoke and neighbouring communities.

Land-of-Sky Landcare

In January 2006, Jerry Moles and David Robertson visited the town of Montreat in western North Carolina to give a presentation on Virginia Landcare. The meeting was organized by Jim Stokoe at the Land-of-Sky Regional Council (LOSRC), a four-county regional council of local governments in Asheville, North Carolina, which had been promoting the Landcare concept for several years. The meeting marked the beginning of Landcare in Montreat.

In retrospect, it was in 2003 when Jim Stokoe attended the National Association of Regional Councils conference in Pittsburgh, Pennsylvania, and heard a US Forest Service staff describe an Australian community organizing model called Landcare. As a long-time Land-of-Sky staff member with a keen interest in sustainable development, Jim was fascinated with Landcare, and soon had the opportunity to travel to Australia to study it firsthand. When Montreat Town Commissioner O'Neil Tate and Town

Administrator Ron Nalley invited him to present the Landcare model to the Town's Parks and Recreation Committee and Town Council in spring 2006, Jim thought it might be a hard sell. He was concerned about the values of Landcare, particularly the autonomy of Landcare groups, if it were to be under the control of local governments. But he underestimated the depth of the conservation ethic in Montreat and the Town Council's interest in Landcare. The town officials responded positively, and the Montreat Landcare Team was formed in January 2007, with 20 initial projects ranging from invasive species management to erosion control to environmental education to electric vehicles. In April 2007, team member Rusty Frank led several volunteer works to clear an invasive plant called Japanese knotweed within a new columbarium and memorial garden. Jim Stokoe is gratified that Montreat has become (in O'Neil Tate's words) 'the first Landcare town in North Carolina', and that one of LOSRC's member governments took such a leadership role in its formation.

Central Mississippi Landcare

Landcare is being implemented in Central Mississippi to help reduce the amount of pollutants entering the Mississippi River and contributing to the degradation in the Gulf of Mexico known as the hypoxic zone. The Bogue Chitto Creek watershed was selected as the demonstration site of a Landcare project. This creek empties into the Big Black River, which is a direct tributary of the Mississippi River. This watershed was identified as being compromised by organic enrichment/low dissolved oxygen and biological impairment. The Central Mississippi Planning and Development District (CMPDD) has served as the Landcare facilitator for the Bogue Chitto Creek watershed for the past two years and has forged strong partnerships with other local agencies. The Landcare coordinator drew on the partnerships developed during the project pilot phase to identify citizens concerned about their local watersheds, and organize 'public involvement meetings' to gain their input. These meetings served as catalysts for the formation of localized, stakeholder-led Landcare groups. The objective of these meetings was to provide educational materials and training sessions, identify and address stakeholder concerns, encourage stakeholder participation in watershed restoration activities/projects and promote localized watershed stewardship.

Land trusts and conservation easements

Most easement donors do not have a land/forest management plan in place but are purportedly interested in conservation and sustainable development practices. Targeting these donors and using Landcare as a model or philosophy to incorporate effective land and water stewardship strategies has proven effective. As a platform to bring together various stakeholders who may not have expressed interest in conservation activities, Landcare offers a logically consistent and easily understood set of objectives readily supported by landowners and agencies alike, expanding the number of landowners served by land trusts, including those with or without easements. Landcare has thus served as a tool to easement donors and land trusts alike.

It helps those unlikely to donate easements, but still in need of economic incentives, to maintain their open space and to resist development and difficult economic pressures.

Historically, the persons most likely to donate easements are those with high annual incomes.¹ Therefore, Landcare's ability to improve the economics of easement donors will be less appealing to land trusts, for this group already has economic stability. However, given the conservation ethic and education level of many easement donors², and lack of management plans for their conserved properties, Landcare has become a useful tool to educate existing land donors about best management practices. Landcare also provides a model for easement donors and land trusts to communicate sustainable land management to their neighbours. Landcare also helps land trusts to expand their constituent base to include landowners who are land rich and cash poor. Historically, these are people who do not easily donate a conservation easement, and are prone to selling their properties due to development pressure, increased taxes and lack of economic incentives to stay on the farm. Landcare gives land trusts and these landowners the incentives and knowledge to maintain open space while improving land and water management practices, without necessarily donating a conservation easement.

Importantly, Landcare provides land trusts with an opportunity to affect land management. Land trusts typically are locally governed by well connected and highly motivated people interested in land conservation. They know how to get things done, especially working with landowners and community partners. Often, what they lack is practical land management expertise and practice. Some land trusts across the nation are struggling with the task of managing and sustaining their growing estates. A criticism of land trusts is that they do not do a very good job. Another frequent criticism is that the land trust movement de-emphasizes economic sustainability and community capacity in favour of environmental sustainability. Stated differently, it can remove or reduce economic development options from communities. Again, Landcare offers a viable strategy to address these concerns. The considerable political power and community-based orientation of the land trust community could be a valuable ally for the emerging Landcare movement. Land trusts are one of the many partners alongside state agencies, corporate sponsors and others that landowners and local communities can draw on to help implement Landcare practices. The burgeoning industry of Landcare service providers is another.

Lawncare and Landcare

In January 2005, the Associated Landscape Contractors of America (ALCA) and the Professional Lawn Care Association of America (PLCAA) joined forces under the new name, Professional Landcare Network or PLANET. This international association represents 4000 member firms, over 100,000 employees and millions of clients. One of the largest and most prominent of these Landcare service providers is TruGreen Landcare. TruGreen Landcare is the world's largest lawn and landscape maintenance company, offering a suite of Landcare services including landscape maintenance, golf

course maintenance, landscape design, irrigation services, snow and ice management, tree care, fertilization and weed removal. TruGreen Landcare is owned by Service Master which provides full-service home and business maintenance through a series of businesses, including Merry Maids, Terminix and Furniture Medic. As rural landscapes and landowners continue to change and become more urbanized, the opportunities for full-service land management continue to grow.

PLANET has the potential to expand to include horticulture, forestry, agriculture and natural resource management industries and professions. In 2006, negotiations occurred on a merger between PLANET and the American Nursery and Landscaping Association (ANLA). As land conversion and parcelization continues, links are likely to grow with other professional societies, such as the Society of American Foresters. There is an abundance of new employment and business development opportunities associated with professional land care and the Landcare industry. As these opportunities unfold, the challenge for the Landcare movement is to leverage improved corporate behaviour, while negotiating support for the 3BL mission, without diluting the Landcare ethic and principles in the context of a corporate landscape.

The Chesapeake Club is a good example of non-profit Landcare in action. The club is a partnership of people working together to promote sustainable development and a healthy Chesapeake Bay. Their tactics include a foodscape approach and care for the land via sustainable landscaping and lawn care services industry. They have developed a Chesapeake Club standard, as a branded lawn care regimen designed specifically for the Chesapeake Bay watershed.

Organic Landcare

Organic Landcare is one example of the emerging standards for Landcare practices (Hoover 2005). Organic land care standards have arisen in response to concerns that the land care ethic—which is embedded in the name Landcare—is being sold out and exploited for economic gain (which is only one part of the 3BL). Organic Landcare is an extension of organic agricultural practices to the entire landscape. According to the Connecticut Farm Bureau, growing public awareness of pesticide use hazards and new legislation mandating least toxic and non-toxic alternatives are fueling a new market opportunity for professionals with knowledge of organic land care.³

In the city of Philadelphia, vacant lots are being improved by community Landcare groups, and in the northeast United States and Canada, the Northeast Organic Farmers Association (NOFA) and the Society for Organic Urban Landcare (SOUL) have developed 'organic' and other professional land care standards, to hold the organic Landcare industry and its practices accountable to the public. NOFA is raising the bar for land care through the implementation of an Organic Land Care Program with standards that cover all aspects of land care from site analysis and soil amendments to weeds, mulches and pest management. NOFA's Organic Land Care Program was formed to extend the vision and principles of organic agriculture to caring for the landscapes where most people live, work, play and otherwise spend their daily lives. Its mission is to educate

land care professionals and concerned citizens to practise organic land care, with the goals of maintaining soil health, eliminating synthetic pesticide and synthetic fertilizer use, increasing landscape diversity and improving the health and well-being of the people and web of life in our care.

SOUL, which is based in Canada, was formed in response to the growing need for ecologically responsible land care practices. A growing public awareness of the need to manage landscapes using environmentally sound techniques is creating a demand for professionals who have the knowledge and credentials to practise organic Landcare. Organic Landcare practices go beyond integrated pest management, beyond the use of so-called organic fertilizers and pesticides. They include the concept of intrinsic health and seek to create environments that cater to the well-being of all inhabitants. Organic Landcare practitioners know that they are but stewards of the land, and can at best, hope to work with nature, but never to dominate it.⁴

Community Landcare in Philadelphia

From a financial standpoint, it would be impossible for Philadelphia Green to amend each of the city's 35,000 vacant parcels with topsoil, trees and fencing. As an alternative, Philadelphia Green created the Community-Based Vacant Land Management Program in 2003. Later renamed Community Landcare, this programme employs nine community service organizations to clean and mow hundreds of lots in 10 Philadelphia neighbourhoods on a monthly basis. Although these lots do not receive the same degree of care as the stabilized lot, the change is still quite dramatic. Neighbourhoods look far more appealing when unused parcels are well kept.

Currently 2,500 parcels, roughly 2.5 million square feet (about 60 hectares), are maintained from March through November as part of this programme. The work crews are made up of neighbourhood residents who are gainfully employed in making their communities healthier and safer places to live. Community Landcare provides training opportunities with the aim of developing marketable landscaping skills for the 70 individuals involved.

Source: <http://www.pennsylvaniahorticulturalsociety.org/phlgreen/vacant-CLC.html>, accessed 2/17/07

Forest Landcare

A growing land ethic has been observed in southwest Virginia, where forest landowners involved with Grayson Landcare and Catawba Landcare have turned the Blue Ridge Forest Cooperative (BRFC) into a 'certified sustainable' forest products company and sought assistance for their forest Landcare management needs. BRFC is a cooperative business that helps its member-owners manage their forests, including harvesting, processing and marketing of forest products. BRFC adheres to the principles of the Forest Stewardship Council, which were developed in response to the fact that in many forests around the world, logging still contributes to habitat destruction, water pollution, displacement of indigenous peoples and violence against forest people and wildlife. According to the Forest Stewardship Council, many consumers of wood and paper, and many forest products companies, believe that the link between logging and these negative impacts can be broken, and that forests can be managed and protected at the same time.

Harry Groot, President and Chief Financial Officer of BRFC, describes forest Landcare as a way of “meeting multiple landowner objectives for long-term ecological, economic, and social gain.” Forest Landcare embodies practices like timber stand improvement, habitat control and management, invasive mitigation/eradication, and water quality maintenance/improvement.

The power and challenges of Landcare

Landcare is a powerful name that has proven to be an excellent public relations and marketing tool for land management. This is certainly, at least, part of the reason why firms like TruGreen Landcare have adopted the name. Landcare has captured the imagination of millions of people worldwide, including agriculturalists, environmentalists, foresters, landscapers, sportsmen, gardeners, homeowners, urban populations and corporate sponsors. Landcare is a term that makes sense, and has an intuitive appeal for many different people and organizations involved with land and natural resource management. According to Stewart Lockie, that ‘Landcare’ means so many things to so many people is one of its greatest strengths. Landcare is not a solitary organization or programme, but has been successful in mobilizing people of varied backgrounds and world views to undertake an equally varied range of projects and activities (Lockie 1999).

This is true in America where Landcare takes a variety of forms and functions in specific locales and situations, and yet, in all cases, it retains its implicit meaning of people caring for the land—therein is the power of the name. The ambiguity of Landcare is what allows so many people to participate, and yet the power of ambiguity also has a darker side which has allowed Landcare to be used for greenwashing, that is as a symbolic resource by agents wanting to shape ideas about agricultural landscapes or create a ‘greener’ image for their own products, or corporations seeking to ensure that changes are less than radical (Lockie 1999).

Perhaps due in part to Landcare’s ambiguity and the conflicting agenda to which it can give rise, in recent years, the ethics and efficacy of Landcare have been called into question. Hence, as described above, efforts are underway to develop standards and certification processes to hold the movement accountable to its name and implicit ethical principles. For example, PLANET has its own certification standards, with third-party participation and independent Landcare standards that are in many cases stricter than what the industry or many of its clients prefer. Such Landcare standards are building on the ethics implicit in the name of Landcare as a platform for developing new principles and best practices, including specific skill sets, tools and techniques for performing certified Landcare activities.

The Landcare profession is expanding rapidly and in many directions and the movement will eventually weed out (via professional norms, self-imposed standards and third-party certification systems) those individuals and organizations that are not living up to the literal definition of the name, care for the land. For example, as a matter of

policy, Landcare Australia Limited (LAL) only works with companies that live up to the Landcare ethos, although some efforts are also directed to influence their business practices.⁵ LAL has over 15 years of working with companies and has certainly quietly influenced many of their business practices. For example, the operation of Coles, a leading supermarket chain, and major Landcare partner, has become much 'greener' over recent years.⁶

In sum, as with any profession or movement, standards and certification systems are necessary for the long-term success of Landcare. These standards and certification systems reflect the Landcare ethic.

Lessons learned

Landcare is becoming the global norm for natural resource management, reflecting expectations and understandings of the need for partnership and cooperation in order to achieve sustainability goals. Throughout history and throughout the world, local communities have always been, and should continue to be, the primary social unit for implementing Landcare practices. In this sense, community Landcare is nothing new, as it predates the privatization of common-pool resources and the establishment of modern, state-led, bureaucratic and scientific approaches to both the professional management of public lands and the public regulation of private lands.

In the United States, with its long tradition of community-based conservation, there is increasing reason to promote collaborative and decentralized decision making. The United States is a republic that has prided itself on both strong private property rights and civic duty for the public good. And, despite all the rhetoric about rugged individualism and self-reliance, there is a rich history in the United States of citizens banding together and forming local civic associations for the purposes of collective action. In addition, the United States has a long tradition of environmental conservation, being innovators in policy and strategy for wilderness preservation to species protection to clean water provision. These factors—decentralized authority in the form of private property rights/responsibilities, the capacity for collective action through civic association and a history of innovation in environmental conservation—are key ingredients for the success of Landcare.

Landcare in the US will be successful to the extent it appeals to different stakeholders with different vested interests:

- State and federal agencies looking for methods of collaborative conservation, need local communities to be able to request and apply agency expertise and programmes.
- Agency professionals working in the field are overwhelmed by increasing client requests, lost management capacity and shrinking budgets. They need local capacity to implement and replicate professional advice throughout their communities.
- Landowners get the advice and opportunity to achieve their ownership goals, whether that be income generation for meeting tax obligations or receiving trusted advice about amenity and environmental quality management.

- Businesses get increased market shares, resources to improve efficiencies, greater profit and community recognition by participating in Landcare.
- Local government gets a steadily expanding tax base, a reputation for innovation and quality, and is re-elected because it sustains environmental, social, and economic qualities that voters value.
- Environmental NGOs get environmental issues placed on the negotiating table in equal weight to social and economic concerns.

To achieve the hope and promise of Landcare, the movement needs to encourage the following:

- 1 *Strengthening the grassroots.* Landcare groups should be community-based volunteers working on conservation and sustainable development projects that contribute to desired environmental, social and economic outcomes. These groups select their own projects, rather than having funders, bureaucrats or government agencies tell them what to work on.
- 2 *Coordination.* Landcare groups need to be supported by a network that provides skills in volunteer management, grant writing, group facilitation, project management and reporting, accounting, business planning, land management and so on. Coordinators could include regional councils of government, conservation districts, RC&D councils, non-profits and colleges. These organizations can support local Landcare groups with administrative and facilitation services including accounting, fundraising, fiscal agency and insurance.
- 3 *Land owners and managers.* Landcare groups contain both private and public landowners and include farms, public parks and forests, town and county recreation parks, greenways and corporate land in their portfolio. These people have the responsibility and legal authority to conduct conservation activities on lands they own, or for which they are responsible.
- 4 *Scientists, educators and professionals.* Landcare groups need access to land management expertise available from district conservationists, extension agents, landscape architects, foresters, fish and wildlife biologists and so on. These are the professions and people who understand natural systems and can advise Landcare groups on ecosystem restoration, revegetation, invasive species control, soil conservation, erosion control and forest management, as well as on project selection, monitoring and evaluation. They also can help with landowner and public education on conservation issues.
- 5 *Local business and corporate sponsors.* Landcare is about creating economically sustainable land management systems and thus must actively include local private businesses that see Landcare as a means to improve market share, profits and resilience. Landcare should also appeal to corporations interested in investing in the emerging Landcare movement in partial fulfilment of their corporate mission, to improve relations with the community, and to associate their products with a popular conservation ethic.

Future prospects of Landcare in the USA

The United States of America is a country of 300 million people, a relatively wealthy nation with the purchasing power to consume a disproportionate share of the world's resources. As a developed country, with an increasingly post-industrial and post-productivist economy, it imports many things that its citizens are unwilling to produce at home. In doing so, the nation displaces many of the negative side-effects of its consumption patterns to other places, leaving the by-products and externalities beyond its borders where they are out of sight and out of mind. This leaves the country with relatively better environmental conditions compared to many other parts of the world. Depending on one's perspective, natural resource management and environmental governance in the United States might be characterized either as stable or in state of crisis.

The introduction of Landcare in the US has been founded on people taking responsibility for educating and organizing themselves and others to address shared interests in conserving our natural resource base. In organizing local, regional, state and national partners, the Landcare movement in America has been based upon finding cooperative projects through which various stakeholders can collectively benefit. The focus has been upon the analysis of local circumstances and how they can be changed to meet the 3BL.

In the Americas, approximately 75% of people live in cities and urban areas. As such, many have little or no direct interaction with the land, and yet the land figures prominently in American cultures. People are increasingly concerned about green infrastructure and public ecosystem services, including clean air and water and wildlife habitat and biodiversity. Given this, the opportunities for practising Landcare are many.

Landcare provides opportunities for people to show their care for the land, opportunities to practise their land ethic and opportunities to 'walk the talk'. Landcare tries to create opportunities through reorganizing exchanges of goods and services, creating a new class of service providers, and challenging institutional norms that favour short-term profitability over sustainability. For rural landowners, it provides an opportunity to nurture their land with sustainable, profitable management. For urban landowners, it provides opportunities to find, afford and practise proper lawn care, create backyard wildlife habitat and minimize energy consumption. For consumers, it provides opportunities to purchase locally produced, sustainably grown products. The experiences so far in the US indicate that the openness of Landcare should help everyone find their own place in the Landcare movement that is now taking shape in so many places around the world.

Notes

- ¹ Data for Virginia indicate that 38% have incomes greater than \$200,000 and less than 9% have incomes below \$40,000.
- ² 86% have a bachelor's degree and 46% a postgraduate degree.
- ³ http://www.cfba.org/html/calendar/calendar_detail.php?nid_2/16/07
- ⁴ [http://www.organicLandcare.org/index.php, 2/17/07](http://www.organicLandcare.org/index.php,2/17/07)
- ⁵ LAL for instance, does not work with companies manufacturing weapons of war and tobacco products.
- ⁶ Rob Youl personal communication (email), 19 Feb 2007

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For more information on landcare in the U.S., please visit www.landcarecentral.org or contact the Landcare Center at landcare@vt.edu

10

What is the future of Landcare?

Dennis Garrity

Landcare is now about 20 years old. During its first decade it evolved in Australia, and independently in Germany. During the second decade it found resonance in many other countries around the world. This book has covered the story of Landcare as it evolved in a number of these countries. It is the first account of Landcare as an emerging phenomenon at the global level. Such a history could not have been written even a few years ago, since this progress has been so recent. However, this volume could only partially document the story of Landcare. The unfolding developments in many other places have not been included, for example Landcare in the Pacific Islands, Sri Lanka, the Caribbean, Canada and the UK.

Although this history is incomplete, it has answered one prominent question: *Is Landcare relevant to, and adaptable to, the world's vast landscape of ecosystems, farming systems, and social, economic, and political conditions?*

Clearly, now that Landcare has become a vibrant contributor to sustainable land management in so many countries the evidence affirms the answer to this question as 'Yes!' Landcare has now been found applicable in a wide range of local conditions throughout the globe. Even so, it has exhibited a rich diversity in different countries.

Local leadership and empowerment are now widely recognized as crucial to attacking the pervasive problems of land degradation, and their deleterious effects on rural livelihoods. As that recognition has grown, the presence of a fresh and appealing brand name for these processes has been galvanizing. And Landcare's platform for sustained mutual learning and support among practitioners at the local, national, and global levels has been demonstrated.

This volume has established these points. But it raises a big new question: *What will be the future trajectory of Landcare?* This chapter will attempt to explore some of the key elements of an answer to that question.

One of Landcare's greatest strengths is that it actually means many things to different people (Lockie 1999) ¹. Landcare is not a solitary organization or programme, but has been successful in mobilizing people of varied backgrounds and worldviews to undertake an equally varied range of organizational forms, projects and activities. David Robertson and colleagues (in this book) have noted that this was true in America, for example, where Landcare takes a variety of dimensions and functions in specific locales and situations. And yet, in all cases, it retains its implicit meaning of 'people caring for the land'. They observed that "herein is the power of the name. The ambiguity of Landcare is what allows so many people to participate."

There are many sustainable land management activities and programmes on the ground around the world. But there is no other locally-driven but globally-supported sustainable land management movement quite like Landcare.

Three huge challenges ahead

One may assume that Landcare's future as a worldwide phenomenon is now assured, because it is growing and adapting in so many places. But that would be a premature conclusion. Landcare is still not yet firmly hitched to the future of land stewardship worldwide – for several reasons.

First, much will depend on the continued ability of the movement to support local landcare development, and to keep the momentum alive and vibrant—through networking, technical support, research, communications and resource mobilization. Cross-country support for Landcare is still very limited and tenuous.

Landcare International (LI) is the most active global support mechanism for this (www.landcareinternational.net/). However, LI is not an international organization in its own right. So far, it has relied predominantly on the (voluntary) effort of its steering committee members, advisors, and others, as individuals, who have dedicated their time and resources to international landcare activities. And it has relied on the World Agroforestry Centre as a legal international organization to underpin the conduct of its activities. This has been a mutually conducive relationship. Agroforestry is an important element of landcare in many countries. And the Centre's mission recognizes the importance of institutional innovations that support vibrant farmer organizations. Nevertheless, the rapid growth of Landcare in so many countries has overtaxed these limited talents and resources.

Can Landcare International morph into a body that can more effectively support national and local landcare efforts at the scale that these are really needed? What organizational platform is necessary to make this possible? Right now, Landcare International is a network of individuals, a community of practice. Should it become an international organization that has the governance and management capacity to grow substantially? If so, how should it fit into the landscape of international organizations to draw sustenance and support?

A new and expanded model for building the infrastructure of international landcare is needed to sustain this momentum.

Second, Landcare is not yet formally recognized or supported by many of the governments of the countries where Landcare has been implemented through local efforts. Recognition and support by national governments is a process that should follow from the growing strength of Landcare within individual countries. Fundamentally, that must be led and facilitated by local champions. Yet this can be enhanced by the support of international and cross-country landcare networks, of which LI can play a supportive role. Greater national government recognition ought to be a key focus of assistance to local landcare movements from the international side.

Third, Landcare has not yet been mainstreamed through the global agencies that are powerful players in advancing sustainable land management worldwide. The trajectory of Landcare in the developing world can be greatly enhanced if the major international organizations become active partners in its advancement. Achieving that recognition and support is another key challenge in the coming years.

Support for international landcare needs to be institutionalized within the major global agencies. It ought to become part of the mandate of the relevant global development organizations, particularly the Food and Agriculture Organization of the United Nations (FAO), the International Fund for Agricultural Development (IFAD), the United Nations Environment Programme (UNEP), the Global Environment Facility (GEF) and the International Union for Conservation of Nature (IUCN). And it ought to be part of the agenda of the global and regional development banks, including the World Bank, the African Development Bank, the Asian Development Bank and Inter-American Development Bank. These organizations control vast resources deployed through hundreds of land management projects. Landcare could provide a common platform and agenda for these organizations to more effectively and comprehensively attack land management challenges in synchrony and in partnership.

Mainstreaming Landcare in key global organizations

Landcare International will need to work more closely with the key global organizations, particularly to identify and support Landcare champions and create supportive platforms within each of them. Embedding the Landcare approach in their project portfolios will stimulate a convergence in their approaches to sustainable land management. And it will result in a huge acceleration in the successful advance of Landcare at the local, national, regional and global levels. It will ensure the much more pervasive spread of the Landcare brand.

Two opportunities for such collaboration are currently being developed. One is the ongoing efforts between Landcare International and FAO to create linkages between the FAO Farmer Field Schools Programme and Landcare in Kenya and the Philippines. An FFS-Landcare connection has mutual advantages.

Farmer Field Schools (FFS) is a system of practical classes for farmers to learn the principles and techniques for applying integrated pest management, integrated soil fertility management and conservation agriculture, and to adapt them to their local circumstances. The FFS approach has been deployed in a number of countries and has had significant, measurable impact in enabling farmers to use ecological knowledge to reduce pesticide application, particularly in rice-based and vegetable-based farming systems. It has also shown promise in assisting farmers in rainfed areas to increase the efficiency of nutrient and soil management. The challenge has been to sustain the momentum created by FFS classes beyond the end of the classwork. The formation of Landcare groups and networks by the participating farmers can provide a mechanism to sustain their learning experiences and to continue it long after the courses themselves have been completed.

Another major opportunity for Landcare to link with a major global effort in community-based development is collaboration with IFAD's support for self-help groups (SHGs). IFAD has helped stimulate the development of thousands of village-level SHGs through its loan projects in many countries. In India, for example, these SHGs have become a major conduit for micro-credit to hundreds of thousands of households. The collaboration of Landcare with the SHG movement could enable these groups to focus more attention on the profitability and environmental resilience of their farming enterprises. IFAD has recently begun to tap the expertise of LI in order to develop mechanisms to do this.

Landcare and the environmental conventions

One of the most effective ways that Landcare can be more effectively mainstreamed into development is by gaining recognition as a superior way to achieve the objectives of the global environmental conventions. Landcare International has been active in forging such links.

The *Convention on Biological Diversity* (CBD) has been stimulating new approaches to conserving biological diversity. These now provide a very favorable entrée for Landcare. The conceptual model for protecting biodiversity at the global and local levels has evolved considerably over the past few decades. Earlier, the approach to protecting biodiversity was mainly limited to the establishment of protected areas and finding ways to guard them against encroachment. That model proved to be inadequate, particularly in the tropics.

Today, the CBD is promoting the concept of whole-landscape approaches to conserving biodiversity. This emphasizes the critical importance of involving local communities in the management and protection of biodiversity, not only in protected areas but throughout the agricultural landscape as well. This approach recognizes that it is important for local communities to benefit on their own terms from such involvement, and to be assisted in evolving farming and watershed management systems that raise incomes and create a more biodiversity-conducive landscape. This is what is known as eco-agriculture.

Landcare groups in many countries have contributed to biodiversity conservation. And local Landcare networks have created a number of globally relevant models that can provide a basis for success in integrating conservation with rural development. For example, the development of landcare in the buffer zone areas adjoining the Kitanglad Natural Park in the Philippines was a critical element in the success achieved in protecting the park over the past decade (Garrity et al. 2002). This was achieved through sustained efforts to build trust and cooperation among the landcare groups, the natural park administration and local and regional government bodies. Determined efforts to develop suitable agroforestry systems with the residents of the park buffer zone were also very important.

Another case is that of the Claveria Landcare Association, also in the southern Philippines. It took the unprecedented step of proposing to the Philippine Congress a new national park to protect the critical watersheds emanating from a major range of mountains above their town. The proposal was approved, and the park is now being set up with full local support. Examples from other countries could be emphasized as well. Thus, it is clear that Landcare groups and networks are increasingly instrumental in contributing to biodiversity conservation of globally relevant importance.

Landcare International has been contributing to the periodic CBD meetings to raise awareness of these successes, and to emphasize the unique ways that landcare approaches can make a real difference in landscape-level biodiversity conservation. In the process, LI has been establishing strong links with the many conservation organizations that also are engaged in such work. These efforts must be expanded and consolidated in the coming years. Ultimately, however, we need a close relationship between landcare in local schools and Landcare groups. This provides a powerful model of social learning at the community level.

The *UN Framework Convention on Climate Change* is currently struggling to develop a new basis for the global community to pull together in reducing carbon emissions, and in helping the developing countries most affected by climate change to adapt to its worst effects. Collective action will be critical for rural communities to adapt to climate change. Landcare International should be pro-active in exploring ways by which it can support national and local efforts in rural climate change adaptation. A large element of this will be exchanging information and experiences among landcare groups on what types of adaptive action can be taken with minimal resources and community support, and to advise on how funds for adaptation can be accessed by landcare groups for their activities.

Many development experts believe that it will soon be possible to finance rural development efforts by helping farmers access national and international carbon markets. These markets have grown rapidly in recent years. The value of trade in carbon credits now exceeds \$100 billion per year. Farmers in developing countries are one of the largest and most efficient producers of sequestered carbon through the trees that grow in their agroforestry and community forestry systems. Tree cover can be further increased through such systems on hundreds of millions of hectares of land in the

tropics, enabling farmers and their landcare organizations to obtain more financial support. Such support will help them grow more of the kinds of trees that are useful to them for timber, fuel, food, fodder and income. What is needed now are effective ways by which farming communities can implement such carbon projects. The greatest limitation will be competent rural organizations capable of organizing and pursuing these projects.

These are early days, and so far only a few such projects exist in the developing world. But models for such projects are being tested and refined, and landcare groups can benefit from learning how to be involved. Landcare could be a platform for farmer groups to participate in smallholder carbon projects. Indeed, Australian Landcare has recently launched a programme that provides experience in how such carbon projects work in one country, and might be adapted elsewhere. The programme is called Landcare CarbonSMART (www.carbonsmart.com.au). Participating landholders receive a regular payment for the carbon sequestered in their land revegetation activities. These activities help fight salinity and erosion, improve water quality, and create habitat and other environmental benefits. Landcare International needs to begin supporting other such efforts around the world, particularly in the tropics, where agroforestry plays a major role in farming systems.

The *UN Convention on Desertification* is all about reversing the pervasive problem of land degradation, particularly in the drier parts of the developing world. The early conceptual frameworks and efforts of the convention were mostly top-down in nature. Being top-down, they largely failed. However, it has gradually been realized that locally-led action is the key to addressing these problems, even though they may occur over wide areas. Indeed, land degradation was the original stimulus for the development of Landcare in Australia, and remains a key theme for landcare groups in many countries. However, to date, landcare has not been actively linked with the desertification convention. The potential for doing so is growing, as early disappointment has driven more investment toward supporting local action on the ground. Landcare approaches should now be incorporated into the latest portfolios of projects responding to land degradation around the world. This will involve more collaboration with the GEF, and in particular the major sustainable land management initiative of the World Bank-GEF called TerrAfrica.

Landcare and sustainable development

The world is currently facing a short- and long-term food crisis. A number of factors are responsible, but there is wide consensus that the drastic decline in support for agricultural research and development has been one major cause. It is still too early to tell whether national and global bodies are going to seriously ramp up investments in agriculture to overcome this challenge. But as they examine how to make more productive investments in agriculture, one of the key recommendations that should be considered is shifting more support to the development of vibrant farmer organizations.

Farmer organizations are increasingly recognized as a key to giving producers a voice in policy-making, enhancing knowledge-sharing and infrastructure development, and creating more efficient rural marketing systems. Internationally, as well as locally, landcare ought to make its voice heard more strongly in support of such investments.

The *UN Commission on Sustainable Development* is a forum where LI has made a concerted effort to raise these concerns and to make an impact on future policy. Given that Landcare has come of age as a global phenomenon, and now has the opportunity to more rapidly expand its impact in the coming years, there is an urgent need to make a breakthrough in global recognition of its potential. Landcare International is currently collaborating with the Government of Iceland to develop the basis for approaching the United Nations to formally declare an International Year of Landcare. This would generate major media and policy attention, and would be a unique opportunity to educate the entire global community about Landcare. It would, no doubt, accelerate the development of Landcare in new, unexpected dimensions.

Landcare and the triple bottom-line

Increasingly, Landcare has become a locally empowered platform for rural communities to cope with rural economies under severe economic and social stress. Landcare groups have responded by exploring more innovative ways by which farm incomes can be increased in the face of eroding terms of trade for conventional farm commodities. Many different approaches are being tried. The concept of 'rural systems' is one approach that deserves more attention. This involves the creation of new enterprises that open up avenues for farm households to seek added value for their products through innovative processing and marketing mechanisms. The concept has so far been most actively promoted by Landcare groups in rural Virginia. Here, and elsewhere, it is understood that the best way to achieve land rehabilitation and environmental resilience is by combining these objectives with more profitable farming alternatives, and by addressing the social impacts of household financial stress head on: that is, by addressing the triple bottom-line of environment, economics and social balance.

The evolving geography of Landcare

Where is Landcare expected to advance most successfully in the coming years? A Landcare Master Class was convened at the 2006 International Landcare Conference in Melbourne. It served as the defining event in propelling the development of Landcare programmes in several East African countries. South Africa has begun supporting the development of an African Landcare Network. These developments have created a very favourable climate for expanding Landcare across the African continent.

There is considerable potential to expand in Asia. Plans are underway to sponsor a Landcare Master Class for the Pacific island countries, that could be the springboard for a sustained support for Landcare in that region. Discussions are also under way for a

Master Class in South Asia that would build on the interest in Landcare in Sri Lanka and India. Australian aid is mostly focused on Asia. If Australia's aid programmes could be more pro-active in supporting Landcare, then rapid progress could be sustained in these regions, and in Southeast Asia as well, particularly in Indonesia.

There are many opportunities to strengthen Landcare in Europe. These can build on the strength of a decade-and-a-half experience with Landcare in Germany, efforts in Iceland, and elsewhere. The current shift in farm payments support by the European Common Agricultural Policy has huge implications for enhancing Landcare throughout the European continent (see the earlier chapters in this volume on German and Icelandic Landcare). The European Union is now channeling billions of euros away from traditional commodity payments and towards rewarding farmers' efforts to enhance environmental services. Landcare International can encourage this shift and stimulate a more cohesive European approach to supporting Landcare throughout Europe.

Finally, in the Americas, we have now seen the emergence of grassroots Landcare in the United States, and to a limited extent in Canada as well. Much can be gained by a more active exchange and mutual support among landcare programmes in these countries, as occurred earlier through their combined efforts in supporting the North American Soil and Water Conservation Society. There has also been some initial outreach in the Caribbean island countries. However, Landcare's connection with sustainable land management in the Latin American countries has been tenuous so far. A farmer-run research service answerable to local communities has developed in Colombia, Ecuador and Honduras (<http://www.ciat.cgiar.org/ipra/ing/glance.htm>). Philippine Landcare has experimented with this approach. Opportunities to expand such contacts should be pursued.

The role of research and education

Research has played an important role in the development of Landcare. It has contributed to evaluating the impact of Landcare in a number of countries, particularly Australia and the Philippines. Often these studies have been pursued through doctoral dissertations that delved deeply into some of most cogent questions concerning the technical, economic and institutional aspects. National and regional studies in eastern Africa were instrumental in assessing the basis for how landcare approaches ought to be pursued in the local context. As Landcare grows, the value of research in both measuring impacts and in directing new investments will become increasingly critical.

Likewise, more attention should be given to the development of professional education in landcare. Universities and technical schools need to be more active in expanding their programmes to produce qualified and creative Landcare leaders and facilitators. One positive development is the creation of a new programme on Landcare for African MSc students by Newcastle University in Australia. Hopefully, this initiative will stimulate more universities around the world to build the kinds of academic curricula that will ensure a strong cadre of young talent to carry forward this work in the coming years.

In conclusion

Gradually, as this book has highlighted, Landcare is being recognized as the global norm for effective natural resource management. As was noted in the earlier chapter on Australian Landcare, this is because “throughout history and throughout the world, local communities have always been, and should continue to be, the primary social unit for implementing landcare practices.”

Landcare is thus an exceptionally precious brand. As such, more attention to standards and certification systems will be necessary for it to thrive in the long term. We can well expect the formalization of such standards in the coming years. They will be a basis to help ensure that the behaviour of persons and organizations associated with Landcare are broadly consistent with the brand. Fortunately, there are good examples of how to go about this, as exemplified by the recent development of standards for environmentally and socially responsible carbon projects by the Climate, Community and Biodiversity Alliance (<http://www.climate-standards.org/>).

We can be confident about the future trajectory of Landcare if the integrity of this galvanizing concept is protected, and at the same time it can be more vigorously deployed to support effective efforts of local collective action and responsibility to protect our planet’s future. After all, as Landcare pioneer Andrew Campbell argues, if Landcare did not already exist, we would have to invent it. This is true now more than ever.

Notes

- 1 Lockie S. 1999. Community movements and corporate images: Landcare in Australia. *Rural Sociology* 64 (2):219-233.
- 2 Garrity DP, Amoroso VB, Koffa S, Catacutan D, Buenavista G, Fay P and Dar W. 2002. Landcare on the poverty-protection interface in an Asian watershed. *Conservation Ecology* 6(1): 12.
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Contributors

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Maria Noelyn Dano has worked in environmental management and development for the last 10 years, primarily in the Philippines, and with some short engagements in other Southeast Asian countries. Her involvement with Landcare started when she worked with the World Agroforestry Centre (ICRAF), particularly with the Philippines–Australia Landcare Project.

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Horrie Poussard worked in agricultural extension, soil conservation and catchment management in Victoria, Australia for 20 years. He has a Masters in Agricultural Science. He collaborated with Joan Kirner, former Premier of Victoria, to conceive and launch the Landcare programme in 1986. Horrie runs an international consulting company, Learning & Action P/L, specializing in community development and NRM projects.

David Robertson serves as a faculty member in the College of Natural Resources at Virginia Tech, where he teaches graduate courses and conducts research and outreach projects on the human dimensions of sustainable natural resource management. David is also the Director of the LandCare Center, the Blue Ridge Forest Cooperative and the Greater Lynchburg Environmental Network.

W D (Don) Ross QSM spent more than 20 years in vertebrate pest and sustainable land management research and managing New Zealand's Rabbit and Land Management Programme. A committed Landcarer, Don was the founding CEO of the NZ Landcare Trust (1996), retiring in 2008.

Diane Russell is a Biodiversity and Social Science Specialist at the US Agency for International Development (USAID). She helped design and implement the first steps of the Landcare East Africa concept with the late Ann Stroud, who was Director of the African Highlands Initiative (AHI). Diane has a Masters in environmental management from Yale and a PhD in anthropology from Boston University.

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Rob Youl is a forester who worked for 25 years with Victorian government departments in Australia, and Greening Australia, in farm forestry, Landcare, urban revegetation, project development and publicity. Currently, Rob is Project Officer with Landcare Australia Ltd (LAL), and Landcare CarbonSMART, which registers and trades carbon stocks held in revegetation projects.

The Landcare movement, which started in Australia in 1986, embodies totally the environmental catch-phrase 'think globally; act locally.' This book, which describes Landcare activities in many countries, tells a story of evolution, creativity and community achievement in natural resource management.

