



Australian Government

Australian Centre for  
International Agricultural Research

# Building global sustainability through local self-reliance

Lessons from landcare



Monograph 219

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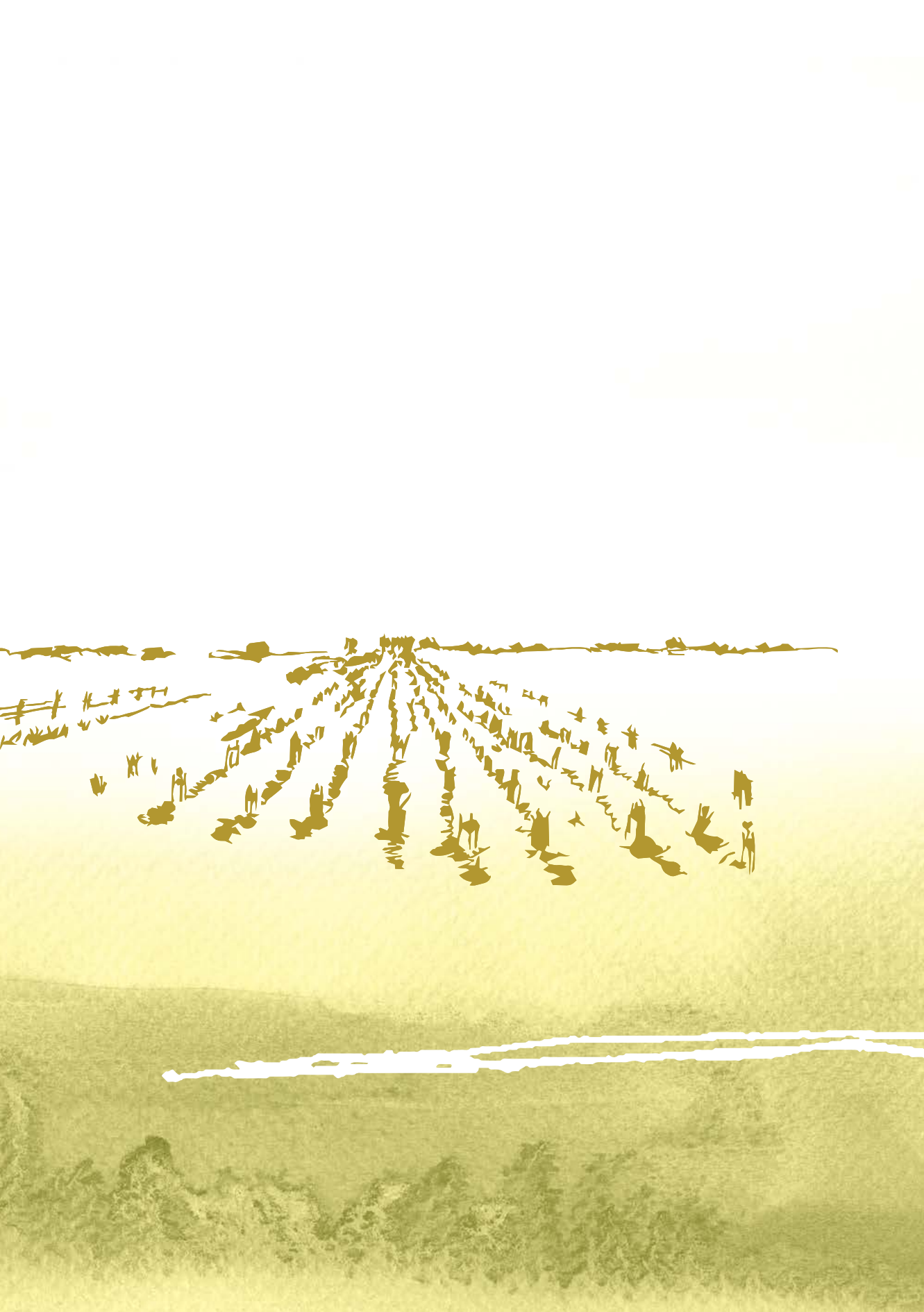
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## List of shortened forms

<b>ACIAR</b>	Australian Centre for International Agricultural Research
<b>AMAEP</b>	ACIAR Mindanao Agricultural Extension Project
<b>AT Uganda</b>	Appropriate Technology Uganda
<b>CAO</b>	City Agriculture Office
<b>CBDRR</b>	community-based disaster risk reduction
<b>CBRM</b>	community-based resource management
<b>CENRO</b>	City Environment and Natural Resources Office
<b>CGIAR</b>	formerly the Consultative Group on International Agricultural Research
<b>CLEA</b>	Community Learning for Environmental Action
<b>CSIRO</b>	Commonwealth Scientific and Industrial Research Organisation
<b>FAC Net</b>	Fire Adapted Communities Learning Network
<b>GDP</b>	gross domestic product
<b>ICM</b>	integrated catchment management
<b>ICRAF</b>	International Centre for Research in Agroforestry
<b>IUCN</b>	International Union for Conservation of Nature
<b>KADLACC</b>	Kapchorwa District Landcare Chapter
<b>KCLID</b>	Kagawa Canal Land Improvement District
<b>Landcare Australia</b>	Landcare Australia Limited
<b>LID</b>	land improvement district
<b>LIFE</b>	Livelihood Improvement through Facilitated Extension
<b>NAACP</b>	National Association for the Advancement of Colored People
<b>NAADS</b>	National (Uganda) Agricultural Advisory Services
<b>NRM</b>	natural resource management
<b>NUISE</b>	Nanzan University Institute for Social Ethics
<b>OBLA</b>	Olo-clofe B'laan Landcare Association
<b>OECD</b>	Organisation for Economic Co-operation and Development
<b>PCAARRD</b>	Philippines Council for Agriculture, Aquatic and Natural Resources and Development
<b>PULL</b>	PCAARRD-UP Mindanao-Landcare LIFE
<b>ROCP</b>	Regional Onsite Conservation Program
<b>RMIT</b>	Royal Melbourne Institute of Technology
<b>SDGs</b>	Sustainable Development Goals
<b>TOFA</b>	Tuban Organic Farmers Association
<b>UN</b>	United Nations
<b>UNESCO</b>	United Nations Educational, Scientific and Cultural Organization
<b>UNHCR</b>	United Nations High Commissioner for Refugees
<b>UNU-LRT</b>	United Nations University Land Restoration Training Programme
<b>WWF</b>	World Wide Fund for Nature





# **PART G**

Landcare's message for  
the wider world





Photo: Yvonne Everett

# CHAPTER 29

## Cross-scale community-based natural resource management stewardship capacity in the United States

Yvonne Everett

### Abstract

Landcare is not a commonly used term in North America, however, community-based resource management (CBRM) groups in the United States carry out analogous roles focused on collaborative community stewardship of ecosystem services. Yet only in the state of Oregon do CBRM groups (watershed councils) receive direct organisational support from government as many Landcare groups do in Australia. Instead, grassroots efforts to respond to dynamic resource management challenges began in the 1990s, and in many communities, groups worked, initially in isolation, to harness community capital for resource stewardship. Over time, successful groups have partnered with each other and with federal, state and local governments to enhance place-based socioecological resilience while also extending their influence across scale to affect regional and national policy.

Based on interviews carried out with CBRM leaders, this chapter briefly explores these relationships, discusses CBRM successes in the United States and addresses current challenges these groups face using three case examples from Northern California. Findings from this chapter indicate that CBRM groups have used diverse forms of community capital to fill in gaps in resource management caused by regulatory train wrecks and a declining federal presence on the land. They have stepped up as leaders in emerging adaptive governance of natural resources in the rural west of the United States and they have advanced approaches to restoration, peer learning, communications and networking to respond to dynamic challenges to communities such as climate change, drought, wildfire and unregulated cannabis cultivation.

## Introduction

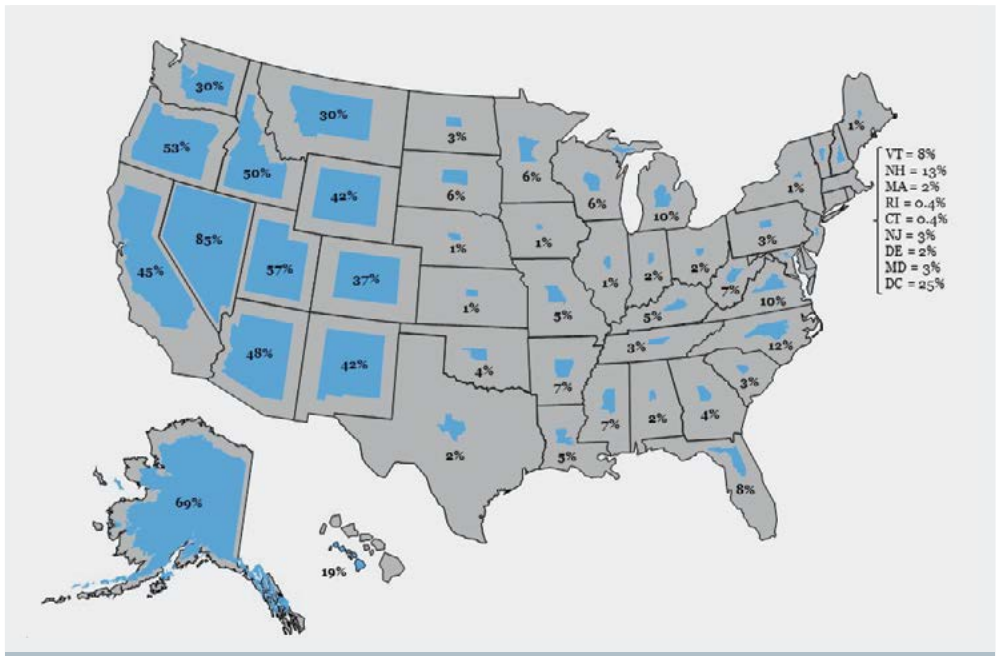
Landcare is not a widely used term in the United States. However, even as landcare was emerging in Australia, place-based, community-led responses to challenges in natural resource management (NRM) also became widespread across the United States. Non-government community-based resource management (CBRM) groups began to take on efforts to restore ecosystems and diversify resource-dependent local economies. Unlike in the case of Australia, where various forms of state and national policy, programs and direct funding have supported the expansion of landcare, there has been no nationally recognised movement endorsed by government in the United States. Only in Oregon is there such institutional support, specifically funding from the state lottery, for community-based watershed councils. Despite the lack of centralised support, CBRM has emerged as a powerful force in NRM and environmental conservation in the United States. In this chapter, I explore how CBRM groups in the United States have managed to organise in their often tiny, remote communities, develop plans for the future, raise funds and gain political support to influence state and federal natural resource policies that affect them. After a brief introduction to the United States resource management context from which CBRM groups have emerged, I will argue that these groups leveraged their small communities' social, cultural, human and political capital to gain traction to attract financial capital to restore natural capital and become the local, regional and national force they are today. Using interviews with CBRM leaders, I provide three brief case studies of groups operating in Northern California to illustrate diverse approaches that CBRM groups have taken to succeed to date and challenges they face.

## Context for emerging CBRM groups: land tenure, natural resource policy and management in the United States

Beside populous metropolitan centres, vast rural landscapes of mountains, plains, forests and grasslands extend across the western United States with scattered communities and very low population densities. NRM, especially forest and range management in this region, is strongly influenced by complex land tenure arrangements and federal and state policy. Federal public land, 28% of the United States, is managed by large, centralised government agencies such as the United States Forest Service (US Forest Service) and the Bureau of Land Management. In some states, this includes more than half of the landscape (Figure 29.1). Much of this land includes the ancestral territories of Native American tribes and the much smaller treaty-designated tribal reservations. States also own and manage public wildlands and open space. Forest industry and ranching are based on private lands, but many landowners access resources on public lands through contracts to log or leases to graze livestock on federal or state lands.

In the 1960s and 1970s, the United States passed major environmental laws in response to public perceptions of industrial pollution and environmental degradation (Rosenbaum 2005). These included, among many others, the National Environmental Policy Act (1970), the Endangered Species Act (1973), the Federal Land Policy and Management Act (1976) and the National Forest Management Act (1976). The National Environmental Policy Act required an accounting of likely environmental impacts of any project carried out with federal funding and allowed citizens to sue the federal government to enforce the rules.





**Figure 29.1** Federal land in the United States as a percentage of total state land area

Source: Tobin M (2013) *Lay of the land: who owns the west?*, EcoWest website.

The Endangered Species Act sought to prevent the further demise of rare species by protecting the species and their habitats. The Federal Land Policy and Management Act and the National Forest Management Act provided guidelines for Bureau of Land Management and US Forest Service management accountability. Until such laws were passed, federal lands in many areas had been managed primarily for resource extraction. By the 1980s, however, as these laws began to be implemented, federal land management practices were increasingly questioned. Strategic lawsuits, brought by environmentalists seeking to ensure that the new laws were followed, led to disruption of on-the-ground logging, grazing, road construction and other management practices.

In the interior west, disputes emerged over grazing and management of grasslands, sagebrush and the rare sage grouse (Belton and Jackson-Smith 2010). In the Pacific Northwest (Washington, Oregon and Northern California), clashes between environmentalists, government land management agencies and the forest industry pitched protection of endangered species and old growth forests for the long term against timber interests and short-term economic gain (Rule 2000; Speece 2016; Maier and Abrams 2018).

Under the Northwest Forest Plan, federal land management policy shifted dramatically from resource extraction towards ecosystem management, and with reduced logging, investment in management on federal public lands slowed (US Forest Service 1994; Christensen et al. 1999). Agencies downsized staff and their capacity to maintain basic management activities on the land declined (Charnley 2006; Moseley and Reyes 2008). Simultaneously, forest industry on private lands was on the one hand downsizing and mechanising, and on the other, exporting increasing numbers of unprocessed logs abroad

and reducing the number of jobs in lumber mills (Charnley 2006; Phillips 2006). Across the Pacific Northwest, federal land management presence declined, forest harvest slowed, mills shut down and timber towns were divided by conflict and economic ruin (Charnley et al. 2008).

In recognition of the economic impacts of radical policy change, for a short five years, the federal government provided funds under the Northwest Economic Adjustment Initiative to help forest resource-dependent communities to diversify their economies (Christensen et al. 1999), and then the support ended and communities were on their own. For many communities, finding the capacity to think about what to do next and to apply for funding (while it lasted) was overwhelming (Kusel et al. 2000). However, as rural towns across the west struggled with economic decline, community-based groups began to organise in response.

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### **As rural towns across the west struggled with economic decline, community-based groups began to organise in response.**

These non-governmental organisations came to be known as 'community-based resource management' (CBRM) groups, 'community forestry groups', 'community-based ecosystem management groups' and/or 'watershed councils' (Gray et al. 2001; Weber 2003; Brosius et al. 1998; Lurie and Hibbard 2008). These groups worked to fill the vacuum left by reduced investment in federal lands and forest industry to restore ecosystems and to reinvent natural resources-based employment opportunities. In this research, I use the term 'CBRM groups' to refer to these groups and the wide range of landcare analogous activities they encompass. While these groups are evocative of landcare, they have not enjoyed the level of federal or state institutional support of Australian landcare groups. Instead, one approach to explaining the rise of CBRM in the United States suggests that these groups mainly leveraged their communities' social, cultural, human and political capital (Flora and Flora 2008) to gain traction within existing institutional structures in the United States and become the force they are today.

### **The Community Capitals Framework**

The Community Capitals Framework (Putnam 2000; Flora and Flora 2008) is an approach to defining a community's economic opportunity as made up of more than standard monetary capital or natural resource and infrastructure inventories. In addition to these financial, natural and built sources of capital, the framework recognises other forms of capital that can be developed and leveraged. Social capital is defined as the relationships of trust and reciprocity among community members. Cultural capital is place-based knowledge and experience developed over generations. Human capital refers to individuals' skills and education, and finally, political capital is the power to draw government officials' attention to issues and influence policymaking (summarised from Flora and Flora 2008).

## **Social and cultural capital**

In the Pacific Northwest, the first step that incipient CBRM groups took was to rebuild social capital and work to heal the conflict between community members ‘across the great divide’ of resource extraction vs conservation (Wondoleck and Yaffee 2000; Brick et al. 2001). These communities were small towns, where people on all sides had grown up. Their children went to the same schools, families to the same churches. They worked, recreated, hunted and fished in the surrounding landscapes. In many communities, it took leadership of individual peacemakers to invite people to share a meal and talk about how to move the community forward, and to slowly develop trust again. Everyone wanted to see these communities survive. Groups began to meet regularly to talk strategy, some with facilitation support from local government agencies. They began to recognise their own social and human capital and plan for the future. In some cases, groups emerged from or worked closely with Native American tribes, drawing on Indigenous knowledge and culture and longstanding experience with the land. Then, as tangible projects emerged that they wanted to take on, groups began to take the next steps, to incorporate as official non-profit organisations.

## **Financial capital**

Incorporating and registering as tax-exempt not-for-profit organisations with the US Internal Revenue Service allowed groups to apply for federal, state and private grant funding to carry out CBRM activities. As noted above, in the Pacific Northwest for a brief period of about five years from 1994 to 1999, the Northwest Economic Adjustment Initiative helped emerging CBRM groups build capacity to conceive and frame projects, write grant proposals, manage contracts, administer grants and implement work on the ground (Raettig and Christensen 1999; Kusel et al. 2007). Federal and state agencies also put out competitive contracts and some grants for resources management work on public lands that CBRM groups could apply for including all manner of contracts for planting, thinning, fuels reduction and use of prescribed fire, inventories and surveying, watershed and fisheries restoration, invasive species eradication and road removal. Major philanthropic organisations also donated to CBRM organisations (Cheng et al. 2006). A whole restoration economy emerged (Baker 2005; Baker and Quinn-Davidson 2011; Bendor et al. 2015; Formosa 2018). While most North American CBRM groups follow this standard non-profit structure, there are interesting exceptions. In Oregon, registered watershed councils receive a base level of funding to support facilitators and they can also apply for additional project funds. The program is paid for with funds from the state lottery and has been approved by voters in perpetuity (Lurie and Hibbard 2008; Montgomery 2013; Nielson-Pincus and Moseley 2013). There are also various forms of hybrid organisations such as resource conservation districts, which have a strong linkage to the Federal Natural Resource Conservation Service and special access to federal funding (NRCS 2018). In summary, this ability to mobilise and access financial capital is one indication of CBRM groups leveraging their human capital.

## Human capital

From the 1990s, CBRM groups were able to build entrepreneurial human capital to fill gaps in resource management needs in both private and public sectors. They captured funding opportunities and developed a broad range of place-based skills by building their staffs and seasonal work crews (Charnley et al. 2008; Abrams et al. 2015). In a dynamic world characterised by climate change, drought, wildfire, policy and institutional change, they carried out significant resource management-focused research and development work in order to adapt and prove resilient. Today, many have broadened their capacity, for example in watershed restoration and prescribed fire use, so much that they have become major local employers in remote areas, with multimillion dollar annual budgets that are reinvested in their communities and in restoring natural capital. An additional key aspect of community capital, developing political capital, was critical to this success.

## Political capital

In general, CBRM groups have become highly collaborative, and to varying degrees, work with other entities such as other CBRM groups and government agencies (for example, Weissberg et al. 2018). It took time to develop these relationships. Initially, emerging CBRM groups were on their own. However, they soon began to learn about and network with other groups in similar situations (Abrams et al. 2015; Maier and Abrams 2018). In the 1990s, computer technology brought email, geographic information systems and enhanced communication capabilities. Philanthropic organisations supported leadership training for CBRM directors and staff (Christoffersen et al. 2008). At these peer-learning meetings, CBRM leaders identified common challenges and brainstormed large and small solutions. A CBRM group cooperating with the US Forest Service in one region could, for example, share the memorandum of understanding it developed with the federal agency, so that another CBRM in another region could use it as a model for its own collaboration with the US Forest Service.

Working with sympathetic non-profit groups in Washington DC, CBRM groups jointly developed white papers analysing resource policy issues affecting rural communities and sent representatives to the US Congress to distribute them. They also hosted delegations who came to see what was happening out west (Cromley 2005). In this collaborative way, CBRM groups have influenced significant national legislation on funding for rural schools, wildfire management and the like (Baker and Kusel 2003; Cromley 2005; Braxton-Little 2010; Charnley et al. 2014; Abrams et al. 2015). Initially limited local CBRM networks became regional and expanded nationwide over time. Today a prominent example is the Rural Voices for Conservation Coalition of over 80 non-profit, public and private organisations from around the west (RVCC 2018). By working together, groups from all over the country have gained access to powerful legislators and now influence policy (for example, about NRM, wildfires and the role of rural communities).

In the remainder of this chapter, I will discuss three examples of CBRM groups in northern California that have each used social, cultural, human and political capital to restore natural capital and leverage financial capital to support their community's resilience. The case studies are based on interviews with staff members of the organisations carried out in 2017, participant observation at community events held by the groups and the author's long association with the groups, including in one case as a board member.



## Case studies

This section explores three case studies of relevance to US community-based natural resource management activities: Sanctuary Forest, the Mid Klamath Watershed Council in Humboldt County and the Watershed Research and Training Center in Trinity County.



**Figure 29.2** Location of Humboldt and Trinity counties, California, USA

Source: Douglas N (2017) *Public, private and tribal lands in Humboldt and Trinity counties* [map data], California Department of Transportation, Humboldt State University GIS and US Geological Survey.

## Sanctuary Forest

Sanctuary Forest (2021) is a group that has combined many forms of capital to enhance its community's socioecological resilience (Formosa 2018) and the ability of the people and their environment to adapt to dynamic changes and persist (Resilience Alliance 2018). It is one of several pioneering CBRM groups in the Mattole River Watershed of southern Humboldt County. The community in this largely privately owned watershed is diverse, libertarian and comprised primarily of ranchers and a significant group of 'back to the landers' – urban refugees who chose to move to rural areas for a simpler, more sustainable lifestyle in the 1970s.

Along with forest restoration work beginning in 1987, Sanctuary Forest emphasises water conservation activities. Past actions have focused on a range of watershed and salmon restoration efforts (House 1999). In early 2000, local creeks began to run dry in summer. My interviewees indicated that too many people were using water during the drought for domestic and agricultural uses, including illegal covert cannabis gardens. A conducive physical and social climate, remoteness and a lack of law enforcement have made northern California a major source of (federally) illegal cannabis for several decades. The crop fuelled a major underground economy with significant environmental impacts, including summer water use and stream dewatering in the Mediterranean-like dry climate. Cannabis was legalised in California in 2018, and while significant changes in how and where this highly lucrative crop is grown were underway at this writing, impacts on water flows continued.

In response, Sanctuary Forest leaders, working in partnership with other local CBRM groups, residents and state and federal agencies, developed an innovative approach to watershed restoration and groundwater recharge that combined social forbearance and Indigenous technical knowledge. Building on the extraordinary buy-in and trust of its community members, Sanctuary Forest pioneered a program of providing large, state-funded water storage tanks to landowners who were willing to fill tanks in the winter rainy season and to voluntarily abstain from taking water out of creeks in summer (Sanctuary Forest n.d.). Today, nearly half of the landowners in the 72 km<sup>2</sup> headwaters of the Mattole River practise forbearance as part of the Sanctuary Forest Program. Promotion of additional forms of water conservation are ongoing (Scavarda 2017).

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**Sanctuary Forest is currently applying Indigenous knowledge drawn from India to construct rainwater storage basins for groundwater recharge along with infiltration swales and galleries, and instream ponds on land in the watershed.**

In addition, Sanctuary Forest is currently applying Indigenous knowledge drawn from India to construct rainwater storage basins for groundwater recharge (*johads*) along with infiltration swales and galleries, and in-stream ponds on land in the watershed managed by the federal Bureau of Land Management (Newlander 2016). The water conservation programs spearheaded by Sanctuary Forest demonstrate the leadership roles of place-based CBRM groups who can combine innovative ideas, appropriate technology, expertise, political savvy and a deep commitment to the land in working with local communities and with local governments, and state and federal agency partners, towards greater resilience.

## Mid Klamath Watershed Council

The Mid Klamath Watershed Council, founded in 2001, is based in the tiny community of Orleans, California, in northern Humboldt County. These lands, now largely federal public land managed by the US Forest Service, are the ancestral territory of the Karuk Tribe. The Karuk do not have a reservation and today own only a few acres of land, even though they have stayed in place on the Klamath River 'since time immemorial' (Rocha 2015:4). From the beginning, the Mid Klamath Watershed Council has partnered with the Karuk, and focused on river and watershed restoration efforts and returning fire to the landscape (MKWC 2021). As the community is surrounded by US Forest Service–managed federal lands, the council also works closely with the Six Rivers National Forest and the Klamath National Forest.

Fire is a natural ecosystem process that has shaped diverse forest ecosystems in this mountainous landscape. Summer lightning strikes bring fires that burn themselves out when the rains come in fall (Skinner et al. 2006). For thousands of years, the Karuk, like many Native Americans, regularly used fire as a tool to reduce fuel loading around village sites and at the landscape scale to enhance natural resources from browse for game to food plants and basketry materials (Kimmerer and Lake 2001; Lake 2007). Beginning in the early 1900s, after large forest fires killed many settlers and burned valuable timber, the federal government ordered the US Forest Service to suppress all wildfires (Agee 1993). Indigenous burning was equated with arson and banned. Changes in forest structure from logging and heavy fuel build-up from fire suppression as well as climate change now promote large-scale high intensity fires that threaten native ecosystems and communities (Orleans/Somes Bar Fire Safe Council 2012).

Over the course of the last 20 years, the Mid Klamath Watershed Council and the Karuk have focused on reintroducing planned fire use combining Indigenous knowledge and current fire science. In an ongoing collaborative effort, working closely with the US Forest Service and many local stakeholders in the Western Klamath Restoration Partnership (Harling and Tripp 2014; Gilles 2017), they have succeeded in landscape-scale planning and are beginning to bring federally sanctioned use of prescribed fire back into the forest. The goals are to use fire to remove fuels strategically, restore forests and protect communities while reintroducing fire to this fire-adapted landscape. In this case, CBRM has harnessed cultural, social and political capital in ways that bring ancient place-based cultural practices together with current social, human and political capital to create innovative forest management practices.

## Watershed Research and Training Center

The Watershed Research and Training Center (Watershed Center) emerged in 1992 in Trinity County, where over 70% of the land is managed by federal agencies, predominantly the US Forest Service (WRTC 2021). Private forest industry owns another 17% of the landscape, leaving very little land in private non-industrial hands. The ancestral territory of the Wintu people, this area was a focus of first the California gold rush in the late 1800s, then beef production on large ranches and, beginning in the 1950s, logging on private industrial and federal lands. The timber-based economy was strong here until federal ecosystem management policy in the early 1990s severely curtailed logging on already heavily harvested federal lands and private mills shut down. The Watershed Center initially focused on diversifying the economy and the types of employment available to local workers in the woods, including thinning forest plantations for fuel reduction and forest restoration, in-stream watershed restoration, and value-added production from small-diameter forest products (Braxton-Little 1998).

Developing new community livelihoods in a landscape managed by the US Forest Service required strong communications skills and perseverance as well as working with local partners across jurisdictional boundaries to address forest conservation issues. Abrams et al. discussed the diverse roles CBRM groups have played in 'reinforcing and reforming' institutions across scale and sectors (Abrams et al. 2015:677). The Watershed Center has been at the forefront of efforts by CBRM groups to network across the west and influence natural resource policy affecting rural communities. It has emerged as a fluid gap-filling actor at local, regional, state and national levels. Along with its innovative leadership, perhaps its greatest strength has been its capacity to develop and leverage its political capital by building networks.

The Watershed Center was able to capture early funding through the Northwest Economic Adjustment Initiative for its CBRM efforts and participated in leadership training and exchanges supported by philanthropic donors. In 2001, it was a founding partner in the western network of organisations called Rural Voices for Conservation Coalition (RVCC 2018). Working to develop opportunities for using the large quantities of forest biomass from fuel reduction efforts that in the past would have been burned in a pile on site, has led to the group's participation in the California Forest Biomass Working Group and the California Statewide Wood Energy Team. The Watershed Center (working closely with others, including the Mid Klamath Watershed Council) also chairs the Northern California Prescribed Fire Council.

Successful CBRM groups like the Watershed Center have developed and leveraged political capital and now have become facilitators of state and national networks of organisations with similar goals. In California, for the Department of Conservation, the Watershed Center works through the Regional Fire and Fuels Capacity program to mentor and train other community groups across the state in community fire preparedness and prescribed fire use (California Climate Investments 2021). It is also a member of the Governor's Forest Management Task Force currently developing a prescribed fire strategic plan for the state. At the national level, the Watershed Center facilitates the Fire Adapted Communities Learning Network (FAC Net), a key partnership initiated in 2013 by the Nature Conservancy and the US Forest Service. In this context, the Watershed Center actively moderates peer-to-peer exchange of knowledge and experience about community strategies for adaptation to wildfire (Mendoza 2017; FAC Net 2021). FAC Net has 24 core member organisations and 120 affiliates who use a managed network structure to share information on reducing community risk from wildfire and enhancing resilience (FAC Net 2021). As was noted above for the Klamath Mountains, wildfire is the most significant natural resources challenge for rural communities in the western United States. The implications of climate change, the history of fire suppression, the expansion of development into the wildland urban interface and drought combine into a wicked problem for which a centralised, top-down response is not sufficient. FAC Net recognises this need for local adaptive management by creating a myriad of flexible online and face-to-face opportunities to connect people working on fire management issues and to share experience and information.

## Emerging challenges for CBRM groups

This chapter has indicated that there are a wide range of challenges facing CBRM groups. Three are particularly significant: wildfire, localised issues and reliable funding. The single greatest challenge for resource management and communities in the western United States (and in many other countries) is wildfire and its drivers – climate change, drought, past forest management practices (especially fire suppression) and expanding housing

development in the wildland urban interface. CBRM groups are actively engaged in the reintroduction of prescribed fire and forest thinning to reduce fuels and in working with community education to be better prepared for wildfire. The challenge is huge, but the need is shared. Networks such as FAC Net are powerful new tools for collaboration.

A second set of challenges emerges from issues that are more localised, and not shared by many groups. CBRM groups in this situation are less able to draw on the political capital of networks to have their voices heard. In northern California, for example, illegal cannabis cultivation on public and private lands threatens endangered species, water supplies and the watershed restoration work CBRM groups have championed (Everett 2018), yet the groups have not been able to garner sufficient support from CBRM groups outside the region to raise the issue at regional and national levels.

Finally, all groups struggle with raising basic operational support and capacity. CBRM groups are taking on many tasks that serve the public good, including roles in resource management, stewardship of ecosystem services and communications that might previously have been undertaken by governments. Federal investment in public lands and natural resources is in flux and the attention of philanthropic organisations is often centrally driven and short lived. As noted above, Oregon is the only state in which watershed groups receive support from the government for basic operations including facilitator salaries.

CBRM is really about people taking responsibility for their community and their environment. What is interesting about this phenomenon in the United States is that CBRM has managed to emerge in a period of about 25 years from groups of volunteers in very rural communities, initially operating in isolation, to form local, regional and national level partnerships and networks to make their voices heard. Unlike landcare in Australia, which, after its beginnings in Victoria, soon enjoyed formal programmatic support from the national level (Youl et al. 2006), CBRM in the United States has remained fundamentally a grassroots movement. Across the United States, community groups have developed community capacity to take on natural resource-related challenges, each in their own ways.

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### **Unlike landcare in Australia ... CBRM in the United States has remained fundamentally a grassroots movement.**

As the cases of Sanctuary Forest, the Mid Klamath Watershed Council and the Watershed Research and Training Center demonstrate, CBRM groups emerge from their communities in response to challenges of public interest that local, state or federal governments and private industrial interests cannot or do not address. In the process, they have built the human capital needed to collaborate with agency staff locally to get important projects implemented. CBRM groups have taken on a wide range of tasks, from fuels and road inventories to National Environmental Policy Act analysis to meet federal regulatory guidelines. The Watershed Center has been entrepreneurial in adapting to changes in forest management through efforts to develop new equipment to manage and harvest small-diameter logs and market new wood products (Braxton-Little 1998, 2010). Groups are using the latest technologies to remain adaptive and resilient as the challenges for rural communities from climate change and explosive wildfires to struggling boom and bust

economies threaten their persistence. In many cases, the CBRM groups have taken the lead on innovative developments in watershed restoration, prescribed fire management and community-scaled biomass energy development and they take the risk for testing feasibility for projects for public benefit (Abrams et al. 2015). These groups have also built and modelled peer-to-peer training capacity and are now beginning to be woven into state and national level government efforts at collaborative NRM.

It would be valuable to have more formal recognition and support from state and federal government agencies for CBRM, such as grant programs for research and development like those emerging from the California Department of Conservation (2021), and taking or sharing the risks to demonstrate feasibility. Such recognition might lead to more formalised efforts at adaptive governance (Anderson and Ostrom 2008). CBRM groups have been masters of communication, peer learning and networking, sharing innovations widely, as well as strong agency partners on the ground.

Interestingly, and unlike in Australian landcare (Lockie 1999), there has been little corporate interest in supporting CBRM in the United States or corporate greenwashing, beyond limited funding through philanthropic foundations of the timber industry.

## Conclusion

This chapter has described CBRM in the United States, a grassroots and increasingly influential phenomenon that is similar to Australia's landcare in some ways. In other ways, however, such as the lack of formal government support and corporate funding, the United States case differs in context, constraints and opportunities. I argue that CBRM groups, particularly in rural communities in the western states, have used community capitals, especially social, cultural, human and political capital, to shore up financial capital and are working to restore natural capital and sustain ecosystem services, often in the wake of reduced investment by formal government institutions. Through their grassroots efforts and networking with various partners, CBRM groups bring significant resources, provide jobs and increase communication in their communities and beyond to regional and national scales, thus contributing to socioecological resilience.

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# CHAPTER 30

## Landcare's potential contribution to the Sustainable Development Goals: a local self-reliance approach to global sustainability

Lisa Robins

### Abstract

This chapter maps aspects of the Australian experience of landcare against the United Nations' framework of Sustainable Development Goals to demonstrate its potential efficacy in a global context. The landcare approach, in its contemporary form, is articulated in the Australian Framework for Landcare (2010–2020) as comprising:

- the landcare ethic (a philosophy, influencing the way people live in the landscape while caring for the land)
- the landcare movement founded on stewardship and volunteers (local community action putting the philosophy into practice)
- the landcare model (a range of knowledge generation, sharing and support mechanisms including groups, networks from district to national levels, facilitators and coordinators, government and non-government programs and partnerships).

Landcare is an example of a long-lasting local self-reliance approach that has been flexible, innovative and dynamic enough to survive and, mostly, thrive for over 30 years in an ever-changing, and occasionally hostile, policy environment. The analysis presented in this chapter suggests that the landcare approach, underpinned by supportive policy settings and institutional arrangements, has much to contribute beyond Australia to achieving the Sustainable Development Goals in both developed and developing country contexts.

## Introduction

This chapter applies the lens of landcare in Australia as a local self-reliance approach to managing natural resources to explore the potential role it may play in realising global sustainability as expressed by the United Nations (UN) Sustainable Development Goals (SDGs). In 2015, the UN passed Resolution 70/1, entitled 'Transforming Our World: the 2030 Agenda for Sustainable Development', which sets out an agreed agenda by its member states, including 17 SDGs and 169 targets (UN General Assembly 2015). The so-called '2030 Agenda' recognises 'that eradicating poverty in all its forms and dimensions, including extreme poverty, is the greatest global challenge and an indispensable requirement for sustainable development', and seeks to 'build on the Millennium Development Goals and complete what they did not achieve' (UN General Assembly 2015:1).

Robins (2018) describes the five phases of landcare over more than 30 years from its birth in the mid-1980s (the 'childhood phase') until today (the 'mid-life phase'), and emphasises that it is not a phenomenon that is static, but rather continues to evolve and be shaped over time. The Australian Framework for Landcare (2010–2020) describes landcare's approach in its modern-day incarnation as the sum of the following three elements (AFLRG 2010:1):

- **landcare ethic** – a philosophy, influencing the way people live in the landscape while caring for the land
- **landcare movement** founded on stewardship and volunteers – local community action putting the philosophy into practice
- **landcare model** – a range of knowledge generation, sharing and support mechanisms including groups, networks from district to national levels, facilitators and coordinators, government (Table 30.1) and non-government programs and partnerships.

Without explicitly referencing subsidiarity, the Australian Framework for Landcare 2010–2020 emphasises local community action and responsibility for 'owning' local problems and developing solutions to them. It sees the primary role of government at higher levels being to foster community self-reliance at local levels.

It is important to note that the landcare model became nested within a higher-level regional model for natural resource management (NRM) from mid-2002 when the Australian Government designated 56 regional NRM organisations (Figure 30.1), which span the whole continent and have a community-based management structure (Robins and Dovers 2007a, 2007b; Robins 2018).

Love, as a former National Landcare Facilitator, summarised Landcare's achievements as follows (Love 2021:52):

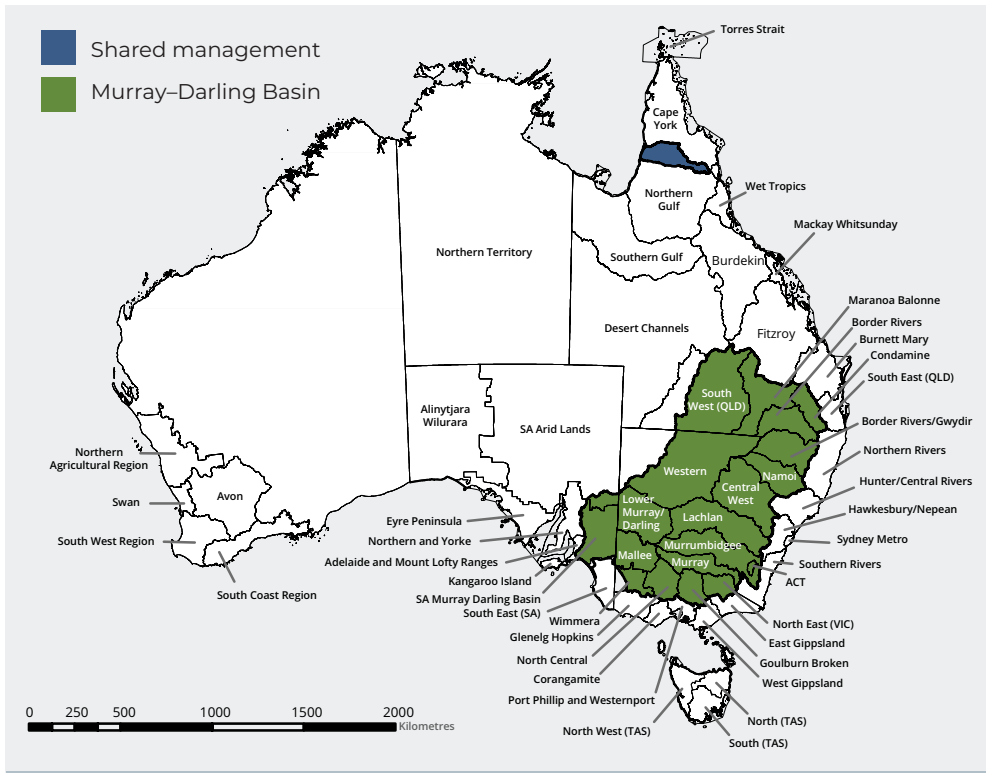
- provided an essential vehicle to assist a nation to change direction and work towards ecologically sustainable development
- involved more than 5,000 community-based Landcare and related groups currently operating
- harnessed major community in-kind and financial investment through broadscale community participation in sustainable resource management for the long term
- supported intergenerational learning through group corporate knowledge, family knowledge and school activities
- enabled thousands of people across communities since the 1980s to develop their capacities in skills, knowledge and application to progress
- social cohesion and community resilience across regions through incorporating social, economic, environmental and cultural considerations into everyday activities that also assist disaster recovery in farming and pastoral communities.

**Table 30.1** Major Australian Government funding initiatives for landcare-related activities

Program	Acronym	Objective	Resourcing
National Landcare Program (announced in 1989)	NLP	To promote the uptake of land and water management practices that are ecologically, economically and socially sustainable <sup>a</sup>	\$320 million over 10 years <sup>b</sup> (funds from 1992 <sup>a</sup> )
Natural Heritage Trust <sup>c</sup> (1997–98 to 2001–02)	NHT	To directly address pressing environmental issues whether they be at a local, regional, state or national level	\$1.25 billion over 5 years
Natural Heritage Trust Extension <sup>c</sup> (2002–03 to 2007–08)	NHT2	To help restore and conserve Australia's environment and natural resources through biodiversity conservation, sustainable use of natural resources, and community capacity building and institutional change	\$1.75 billion over 6 years
National Action Plan for Salinity and Water Quality (2000–01 to 2007–08)	NAP	An 'initial step' to achieving major systemic improvements in land and water management in regions highly affected by salinity, or contributing to salinity and water quality problems elsewhere	\$1.4 billion over 8 years in 21 priority regions (incl. parts of about 30 NRM regions)
Caring for our Country <sup>c</sup> (2008–09 to 2012–13 <sup>d</sup> )	CfoC	To achieve an environment that is healthier, better protected, well managed and resilient and that also provides essential ecosystem services in a changing climate, with focus on six national priorities, including community skills, knowledge and engagement <sup>e</sup>	\$2.25 billion over 5 years
National Landcare Program/me <sup>f</sup> (Phase One) <sup>g</sup> (2014–15 to 2017–18)	NLP1	Four strategic objectives focused on managing landscapes to sustain long-term economic and social benefits, increasing long-term returns through better management, involving the community and protecting species and natural assets	\$1 billion over 4 years
National Landcare Program/me (Phase Two) <sup>h</sup> (2018–19 to 2022–23)	NLP2	A nationwide effort to address problems such as loss of vegetation, soil degradation, the introduction of pest weeds and animals, changes in water quality and flows, and changes in fire regimes	\$1 billion over 5 years

Notes: <sup>a</sup> Commonwealth of Australia (1997a); <sup>b</sup> Hawke (1989); <sup>c</sup> Umbrella initiatives under which the National Landcare Program is the headline program; <sup>d</sup> CfoC was set aside in mid-2013 with the announcement that it 'would be combined with the National Landcare Programme' (Australian Government n.d.-a); <sup>e</sup> Commonwealth of Australia (2013); <sup>f</sup> Australian Government uses both spellings; <sup>g</sup> Australian Government. National Landcare Program Phase One; <sup>h</sup> Australian Government. National Landcare Program Phase Two.

(Adapted from Table 2 in Robins 2008:690).



**Figure 30.1** Australia's 56 natural resource management regions, formalised under the Natural Heritage Trust Extension

Source: Robins L and Dovers S (2007) 'NRM regions in Australia: the "haves" and the "have nots"', *Geographical Research*, 45(3):274.

These considerations positioned Australia as a world leader of a national community-based process that has successfully shifted attitudes and practices at the local level, where the application of change needs to take place. Consequently, the section that follows uses the UN's SDGs framework to demonstrate the potential efficacy of landcare in a global context. The paper then concludes with reflections on the potential utility of the landcare approach as a local self-reliance approach in realising global sustainability.

## Mapping landcare against the UN's Sustainable Development Goals

Landcare in Australia has a long and diverse history spanning more than three decades. As such, mapping its rich narrative against the SDGs would require an entire book. Instead, the objective here is to present a small sample of that experience as a window into its potential for contributing to the achievement of the SDGs in other contexts. For some SDGs, an illustrative example of a particular initiative is provided or a description of the efforts of a specific Landcare group. This mapping exercise is confined to 12 of the 17 SDGs. Five SDGs have been excluded on the basis that the contribution made by landcare is only minor, as well as being secondary to its main purpose, namely: SDG 7 (Affordable and clean energy), SDG 8 (Decent work and economic growth), SDG 10 (Reduced inequalities), SDG 12 (Responsible consumption and production) and SDG 16 (Peace, justice and strong institutions).



## SDG 1: No Poverty

The first SDG is 'End poverty in all its forms everywhere' (UN General Assembly 2015:14). As a developed nation, Australia is not generally perceived as having domestic poverty issues. However, like the United States and Canada, significant disparities in health and prosperity exist in Australia between its Indigenous and non-Indigenous people. Life expectancy for Indigenous people is still at least 10 years less than for non-Indigenous people (Wright and Lewis 2017), and child malnutrition is 1.7 times higher than for the total population. The Close the Gap Campaign concludes that:

(a) country as prosperous and capable as Australia should not still be struggling to overcome these disparities for Aboriginal and Torres Strait Islander people who constitute only 3 per cent of the population (Wright and Lewis 2017:13).

In 2015, the Senate Environment and Communications References Committee recommended that:

the Department of the Environment undertake consultation with Indigenous groups active in natural resource management to ensure that Indigenous views are incorporated in any modifications of the National Landcare Programme (Commonwealth of Australia 2015, Rec. No. 15).

The Australian Government (n.d.-b) has produced a guideline on 'Indigenous participation in the planning and delivery of National Landcare Programme investment', which directs regional NRM organisations to involve Indigenous people in the planning and delivery of the program's investments with a view to ensuring 'that Indigenous engagement and participation features strongly as an investment, project and employment outcome for the NLP' (Australian Government n.d.-b:1). Indeed, local Indigenous communities have long been a key constituent of many of Australia's 56 designated regional NRM organisations (Figure 30.1), especially those with rangelands. Northern Queensland's (Burdekin) Dry Tropics region, for example, formed a Traditional Owner Management Group more than 10 years ago, with representation from 15 Indigenous groups. The group oversees a grants program that aims to 'maximise skills and opportunities for Traditional Owners to work on country' (NQ Dry Tropics 2015).



## SDG 2: Zero Hunger

The second SDG is 'End hunger, achieve food security and improved nutrition and promote sustainable agriculture' (UN General Assembly 2015:14). In 2009, Australian farms supplied 93% of food consumed domestically, and exported 60% of total produce, which helped to 'feed some 40 million people outside Australia each day' (ABS 2012). Landcare has played a key part in improving the sustainability and security of Australia's food production systems. One of the National Landcare Program's intermediate outcomes is defined as:

by 2018, NLP investments have made a demonstrable contribution towards increasing the adoption of sustainable farming and fishing management practices with the intent to improve long-term productivity through improvements to the resource base (Commonwealth of Australia 2015:68).

A substantive body of evidence demonstrates that Landcare has changed landholder management practices, according to Curtis et al. (2008:16), including national surveys showing higher levels of adoption of sustainable farming practices by Landcare

participants. For example, the authors (Curtis et al. 2008:16, citing Alexander et al. 2000) indicate that Landcare group participants were 88% more likely to exclude stock from agricultural areas affected by land degradation and 77% more likely to undertake formal monitoring of pasture or vegetation conditions. A case study on 'no till' or conservation farming in broadacre cropping systems throughout southern Australia published by the National Landcare Advisory Committee in its 2016 report on the role of Landcare in building adaptive capacity and resilience says that the uptake of no till farming systems has resulted in improvements for farmers in terms of drought resilience, productivity and crop/soil/ water efficiency, seeding efficiency, groundcover and soil health. The authors state that:

(t)he use of the farmer driven group extension model which allowed the rapid adoption of No Till systems across southern Australia has increased the capacity of Landcare groups to take ownership of, and action towards, more complex issues, to develop partnerships with appropriate stakeholders to identify solutions, source funding and extend outcomes to farmer groups (Hamparsum et al. 2016).



### SDG 3: Good Health and Well-being

The third SDG is 'Ensure healthy lives and promote well-being for all at all ages' (UN General Assembly 2015:14). Landcare involves 'people of all ages from school children to retirees, from many cultures and across all environments, including agricultural, Indigenous, urban and coastal lands' (AFLRG 2010:2). In doing so, it not only makes a significant contribution to the health and wellbeing of those who engage directly as landcarers, but also to the broader community who benefit from the fruits of their labours (for example, urban tree planting that provides dust suppression, shade, shelter and amenity values). A report on the multiple benefits of landcare and NRM (Ferraro 2013:69) found that involvement in landcare, and NRM more generally, provided six categories of benefits, of which one is 'social – community health and wellbeing' comprising three subcategories (contact with natural environment, social networks, and physical and mental health benefits).

A 2015 hearing of the Senate Environment and Communications References Committee on the National Landcare Program stated in its conclusions and recommendations that it 'recognises the social benefits of Landcare ... [including that] its contribution to individual and community wellbeing is immense' (Commonwealth of Australia 2015:125). The committee received evidence that funding reductions were threatening the wider benefits of landcare in rural and regional communities, which were characterised as 'the provision of employment, building social cohesion and capacity, and health and wellbeing of individuals and the community' (Commonwealth of Australia 2015:126). With respect to the social outcomes associated with the National Landcare Program, the same report stated that 'the widely observed positive effects on society are harder to demonstrate in a quantitative way and are not included in reporting mechanisms' (Commonwealth of Australia 2015:91). To this end, one informant, commenting on the broader benefits of Indigenous engagement in NRM, stated that '(t)here are flow on effects from the [Indigenous] ranger engagement, such as community pride and self-pride, economic independence, physical and environmental health' (Commonwealth of Australia 2015:122).

In the context of Indigenous health, research by Burgess et al. (2009) concluded that:

(g)reater Indigenous participation in caring for country activities is associated with significantly better health ... [and] that investment in caring for country may be a means to foster sustainable economic development and gains for both ecological and Indigenous peoples' health (Burgess et al. (2009:567).



Ferraro (2013) cites a fire recovery project conducted by the Upper Goulburn Landcare Network and Goulburn Broken Catchment Management Authority, which contributed to community health and wellbeing through disaster recovery efforts, and through individuals having 'meaningful contact with the environment and increased social connectedness and participation in community activities (including from urban dwellers and those not previously involved in Landcare or NRM)' (Ferraro 2013:i). University of Canberra publishes reports annually based on its Regional Wellbeing Surveys, the first of which was conducted in 2013, including challenges for farming challenges and farmer wellbeing (University of Canberra 2022).



#### SDG 4: Quality Education

The fourth SDG is 'Ensure inclusive and equitable quality education and promote lifelong learning opportunities for all' (UN General Assembly 2015:14). A report on the multiple benefits of landcare and NRM states that:

(t)he report makes a compelling case for a range of positive educational outcomes for individuals (for example, continuous learning and skill development) through to the broader community (for example, spreading awareness and delivering innovation) (Ferraro 2013:i).

In its conclusions and recommendations, the 2015 hearing of the Senate Environment and Communications References Committee on the National Landcare Program gives emphasis to the following submission: 'Landcare's enduring popularity is due to the embedded philosophy of embracing local issues, empowering communities with education extension and decision support tools that deliver practical solutions' (Commonwealth of Australia 2015:125). Junior Landcare is one exemplar of quality education; it has been managed by Landcare Australia Limited (Landcare Australia) for almost 20 years and has provided an enduring platform for 'encouraging young people to play an active role in ensuring the safe future of their environment' (LAL 2018). Landcare Australia is a private company formed by the Australian Government 'for the purpose of promoting Landcare to the wider community, and attracting sponsorship from the private sector for Landcare activities' (Lockie and Vanclay 1997:3). Some Landcare groups have adopted Junior Landcare groups, including engaging them in their activities (Love 2012:33). Through Landcare Australia, major companies have sponsored Junior Landcare grants to Australian schools and youth groups since 2003 (Youl et al. 2006).

Junior Landcare enables children to work on a variety of environmental projects with their local Landcare group, and may be integrated into school curriculums drawing from educational resources developed to support teachers and their students. There is a primary school-level series of 'how to' guides on undertaking Junior Landcare projects in and around the school produced in collaboration with the Primary Industries Education Foundation ('Creating a food garden', 'Building a worm farm', 'Creating a frog pond', 'Enhancing and restoring habitats' and 'Growing healthy plants using natural pesticides') (LAL 2018). More than 1,000 Junior Landcare schools across Australia grow and consume their own vegetables (Junior Landcare 2014). The curriculum resources developed to support Junior Landcare are consistent with the Australian Curriculum, which sets national standards to improve learning outcomes. The Australian Curriculum has three cross-curriculum priorities, of which 'Sustainability' is one, that aims for students to 'develop the knowledge, skills, values and world views necessary to contribute to more sustainable patterns of living' (ACARA 2018).



## SDG 5: Gender Equality

The fifth SDG is 'Achieve gender equality and empower all women and girls' (UN General Assembly 2015:14). The Australian Human Rights Commission (2014) reports that 'women in Australia have made significant strides towards equality with men' in recent decades, but that 'women and girls continue to experience inequality and discrimination in many important parts of their lives, which can limit the choices and opportunities available to them' (Australian Human Rights Commission 2014:2). Indeed, Australia has fallen from 15th place in the World Economic Forum's Global Gender Gap Index Ranking in 2006 to 50th place in 2021 (WEF 2021:10). Sheridan and Haslam McKenzie (2009) emphasise that '(w)omen's representation in the formal leadership roles within agricultural organisations and selected regional bodies remains disproportionately low, and clustered in those organisations with a local focus, poorly resourced and with little status' (WEF 2021:x), despite the likely contribution of women in agriculture and rural communities at 'over 49 per cent of the total value of the output that might be attributed to farming communities' (WEF 2021:iii). This figure aligns with a companion report 10 years prior, which reported that '(w)omen contribute 48% of ... real farm income' (Elix and Lambert 1998:2). For Landcare specifically, early research argued that those groups in which women were active participants were more effective and achieving more tangible results (Campbell and Siepen 1994). They advocated for:

recognition and support for greater involvement of women in Landcare and the general quest for sustainable systems of land use and management in Australia, not just on the grounds of equity (which are compelling), but because society has so much to gain in sheer productivity terms if everyone has equal opportunity, credibility and legitimacy as players in this scene (Campbell and Siepen 1994:128).

In 1997, the Landcare Participation Project was initiated by the Australian Government in response to research findings that women (and people from non-English-speaking backgrounds) were not well represented in Landcare (Commonwealth of Australia 1997b). It found that 'women's participation in landcare practice was not in question but that the problem was with their representation in more formal Landcare activities' (Commonwealth of Australia 1997b:103). Around the same time, Lockie (1997) concluded:

(t)hat Landcare groups have achieved a level of participation amongst women unseen in other farm related organisations, is something about which there can be little doubt ... (but that) male hegemony is still, nevertheless, a major force in the structuring of social relations (Lockie 1997: 80).

In the 20 years since, Landcare has waxed and waned in its efforts to use existing measures or deploy gender-specific ones at different levels to improve gender equality, such as training and professional development opportunities, women's workshops (for example, Merchant 2013), event sponsorship (for example, national and state Landcare conferences), gender-based data collection and research projects, recognition awards (for example, Landcare Awards), appointment to leadership roles in formal landcare-related administrative structures, and support for rural women's networks. The formal evidence base for assessing progress in this arena is slim, and the subject of less attention than in the heydays of the Decade of Landcare. While more recent reports might mention gender issues, they do not shed light on matters beyond generalised statements like that a social benefit of landcare is 'the increased recognition of women in rural communities' (Ferraro 2013:ii).

Chapter 22 by Jayne Curnow and Mary Johnson referred to landcare as an ‘accidental equaliser’ in gender equity terms, with high profile women leaders in Victoria in the form of the state premier, Joan Kirner, and the president of the Victorian Farmers’ Federation, Heather Mitchell-Carmichael. Like Lockie (1997), they highlight Landcare as standing out within Australian agriculture for the relatively equal status accorded to women, but lament the persistence of gendered social relations in rural communities.



## SDG 6: Clean Water and Sanitation

The sixth SDG is ‘Ensure availability and sustainable management of water and sanitation for all’ (UN General Assembly 2015:14). In Australia, many rural towns and farm properties source drinking water from local waterways and groundwater aquifers, which may have high salinity, bacterial contamination, herbicides, dissolved nutrients and more. Catastrophic events sometimes occur that kill in-stream life and make waters unfit for drinking like toxic blue-green algal blooms (MDBA 2018a), salt slugs (Telfer et al. 2012) and blackwater (oxygen depletion in the water column from returning floodwater containing elevated levels of dissolved organic carbon) (MDBA 2018b). The focus of landcare has been as much about water as about land – Landcare groups have, among other things, battered gullies to stop soil leaving the land and entering streams, fenced and replanted riparian lands, installed off-stream troughs for stock watering, replaced large woody debris to recreate fish habitat, and planted vast tracts of land to tackle rising saline groundwaters and run-off.

**The focus of landcare has been as much about water as about land – Landcare groups have ... battered gullies to stop soil leaving the land and entering streams, fenced and replanted riparian lands, installed off-stream troughs for stock watering, replaced large woody debris to recreate fish habitat, and planted vast tracts of land to tackle rising saline groundwaters and runoff.**

Tackling land and water salinity has been a focal point of landcare from the outset. In 2000, the first national assessment of dryland salinity estimated that nearly 5.7 million hectares was at risk of or affected by dryland salinity, with the potential for a threefold increase by 2050 (NLWRA 2001). Community monitoring programs like Saltwatch, Watertable Watch and Waterwatch were early examples of citizen science, where data collected by local communities could inform public awareness and feed into official databases and maps. Youl et al. (2006) cites the Goulburn Valley in northern Victoria, where 32 Landcare groups (1,200 farmers) ‘maintain a computerised watertable mapping service, distributing monthly maps showing regional levels and potential salinity problems’ (Youl et al. 2006:13). An oral history of Wagga Wagga Urban Landcare Group describes its incorporation in July 1995 in response to ‘the issues of dryland salinity’ that was ‘creeping through sections of Wagga’ resulting in ‘actual destruction of bricks and mortar’ (ngnvironmental 2013:4). At the time, the group focused its efforts on ‘community education, tree planting, removal of introduced woody weeds, and raising awareness of salinity in the region’ (ngnvironmental 2013:4).



## SDG 9: Industry, Innovation and Infrastructure

The ninth SDG is 'Build resilient infrastructure, promote inclusive and sustainable industrialization and foster innovation' (UN General Assembly 2015:14). Landcare has been a significant contributor in terms of both building resilient infrastructure and as an incubator of innovation. While landcarers have put in place built infrastructure like off-stream troughs for watering stock, concrete chutes for mitigating soil erosion and evaporation basins for managing saline groundwater, the green infrastructure that has resulted from their collective tree planting and ecosystem restoration efforts is arguably their most valuable, extensive and enduring contribution.

Built and green infrastructures are both necessary to sustaining high-quality lives and lifestyles (Hull 2011). Green infrastructure, according to Angelstam et al. (2017:301), 'emphasizes the functional interconnection of sufficient amounts of natural and semi-natural ecosystems where patches of green space, protected areas, parks and recreation sites are constituent parts'.

Landcare, according to the Australian Framework for Landcare (2010–2020), has:

changed the face of Australia's rural and urban landscapes. It has planted millions of trees, shrubs and grasses; repaired riparian zones and restored water quality by reducing erosion and fencing out stock from riverbanks; protected remnants of native vegetation; regenerated areas to provide habitat for native wildlife; improved ground cover, grazing methods and soil management; and rehabilitated coastal dunes and recreational areas (AFLRG 2010:2).

By way of example, Ferraro (2013:39) outlines the case of the Web of Trees farm forestry project (by the Otway Agroforestry Network, part of the Upper Barwon Landcare Network), which increased forest cover in the Yan Gurt Catchment from 6% to 21% of total area, involving tree planting on cleared farmland by over 20 families.

Turning to innovation, Landcare Australia argued in a submission to the House of Representatives Standing Committee on Science and Innovation Inquiry into 'coordination of the science to combat the nation's salinity problem' that 'Landcare improves access to technology by providing a structure in which groups can work together with scientists and by providing communication channels and networks' (Scarsbrick 2003:2). Youl et al. (2006:12) singles out innovative nursery and tree planting equipment that had emerged over a 20-year period, 'often from workshops of farmers and other landcarers, including tractor-drawn and manual tree planters and seeders; guards; weed control techniques; and protective fencing'. With reference to the 2008 Victorian Landcare Forum, Ferraro (2013:38) states that 'participation in and the philosophy of Landcare can lead to innovation and the adoption of new technologies in order to increase production and enhance the sustainability of our actions', and that Landcare's 'ability to foster innovation' underpins the broader than anticipated set of economic outcomes it has delivered over the long-term (Ferraro 2013:57). New technology and equipment have also arisen from Landcare's community monitoring activities (Ferraro 2013:16).



## SDG 11: Sustainable Cities and Communities

The 11th SDG is 'Make cities and human settlements inclusive, safe, resilient and sustainable' (UN General Assembly 2015:14). While the initial focus of Landcare was rural landscapes, 'many urban communities wanted to form groups to restore local publicly owned bushland remnants with environmental and


recreational values' (Youl et al. 2006:5). Love (2012) described community groups of interest in urban and coastal neighbourhoods (such as Friends of ..., Coastcare, Dunecare and Waterwatch) 'working on public recreational, waterway and coastal areas addressing weed and feral animal management, landscape restoration, public access and aesthetics' (Youl et al. 2006:26).

Urban landcare across Australia takes many forms. For Victoria's Wodonga Urban Landcare Network, urban landcare means:

- People caring for our parks and reserves
- Creeklines and bush reserves free of willows, blackberries and other exotic plants
- Corridors of native bush with insects, reptiles, birds, mammals - the whole web
- Creeks and rivers with everything waterlife needs to live in
- Places saved and places made for food and homes for native life (habitat!)
- Fire aware revegetation of bush corridors
- Everyone knowing what 'natural' looks like, why we need it, and how to help! (Wodonga Urban Landcare Network 2022).

For the rural town of Bellingen in New South Wales, its Urban Landcare Group established in 1995 focuses on rehabilitating its waterways (Bellingen Urban Landcare 2018). Other urban Landcare groups work at much bigger scales, like Bulimba Creek Catchment Coordinating Committee, covering 10% of metropolitan Brisbane, which planted a quarter of a million trees over a period of decade and involved more than 5,000 people each year in its programs, including Waterwatch and schools education (Youl et al. 2006).

Collectively, urban Landcare groups have played an important role in raising community awareness and engagement and in improving the sustainability of many towns and cities across Australia. However, there has been and remains an urban-rural tension between competing interests for what is perceived as a finite amount of (mostly government) resources. Funds channelled to urban interests have been perceived by some as being taken away from rural landholders who have a more legitimate need for funding support to tackle serious environmental degradation (and improve agricultural productivity). To some degree, urban dwellers were seen as co-opting a rural agricultural program, while their rapid proliferation threatened to overrun the predominance of their rural cousins. In Victoria, for example, the number of rural Landcare groups (approximately 800) in 2006 equalled that of urban groups (approximately 500 conservation groups plus around 300 community associations involved in Coastcare projects) (Youl et al. 2006:5). This urban-rural tension has bearing on sustaining a cohesive and functional nationwide Landcare community, and needs to be adequately accounted for in policy settings and institutional arrangements.



**Urban Landcare groups have played an important role in raising community awareness and engagement and in improving the sustainability of many towns and cities across Australia.**



## SDG 13: Climate Action

The 13th SDG is 'Take urgent action to combat climate change and its impacts', including 'Acknowledging that the United Nations Framework Convention on Climate Change is the primary international, intergovernmental forum for negotiating the global response to climate change' (UN General Assembly 2015:14). Until recently, climate action has been on the back foot in Australia. In comparison, the near 30-year-old Statement on the Environment speech by the then prime minister, The Hon. Bob Hawke (leader of the Australian Labor Party), in which the Decade of Landcare was launched, is highly progressive:

Environmental problems today, more than ever, are global. In just over 200 years since the Industrial Revolution, human activity has significantly increased the earth's temperature, threatening the onset of the greenhouse effect ... We will be taking the lead in developing international conventions on greenhouse gas emissions ... Consistent with these international efforts, Australia will be developing a national strategy on greenhouse emissions ... I have put greenhouse issues on the agenda for the first meeting of my Science Council (Hawke 1989).

Love (2012:52) argues that:

Landcare has enabled thousands of people across communities since the 1980s to develop their capacities in skills, knowledge and application to progress: [*inter alia*] an understanding of the changes required to reduce greenhouse gas emissions, manage climate change adaptability and water quality and availability while maintaining food and fibre security.

Carbon farming is an informative example of what landcare might contribute to climate action. Through Landcare Australia's Landcare CarbonSMART program, landholders have a financial incentive to maintain (eligible) vegetation on their land, which is 'achieved by calculating the amount of carbon absorbed by the vegetation and selling the carbon to individuals and businesses to help them take responsibility for their carbon emissions' (LAL 2017). The initiative is supported by big businesses like Westpac, Holden, Leighton Holdings and Freehills, together with Landcare Australia's celebrity ambassadors (LAL 2017).

In a similar vein, Landcare groups (and networks) have linked with the Australian Government's Carbon Farming Initiative, which is 'a voluntary carbon offsets scheme that provides economic rewards to farmers and landholders who take steps to reduce greenhouse gas emissions' (DCCEE 2012). Carbon credits may be earned from reducing livestock emissions, increasing efficiency of fertiliser use, enhancing carbon in agricultural soil, and storing carbon through revegetation and reforestation. By way of example, Holbrook Landcare Network in southern New South Wales has a 'Carbon Farming and your business' project that has been undertaking whole-farm greenhouse gas modelling in order to assess and reduce the carbon footprint of individual farms.

The network has modelled four virtual farms (representative of the region) and audited eight real-farm case studies for their greenhouse gas profile, with the aim of:

creat(ing) local awareness of the various sources of GHG [greenhouse gas] emissions on farms and look(ing) at the ways landholders in the Holbrook region can reduce or offset their GHG emissions (Holbrook Landcare Network n.d.:1).



## SDG 14: Life Below Water

The 14th SDG is 'Conserve and sustainably use the oceans, seas and marine resources for sustainable development' (UN General Assembly 2015:14). The condition of coastal and marine environments is a focal point in Australia given that 85% of the population live within 50 km of the sea. Indeed, only a third of Australia's 56 NRM regions (Figure 30.1) are without a coastal border. The early days of Landcare focused mostly on rural environments and agricultural production, but did not exclude coastal and marine settings. These environments featured more prominently in the establishment of a dedicated Coastcare program in 1995 (administered under the umbrella of the National Landcare Program, and delivered by Landcare Australia), with the aim of engaging local communities in coastal restoration and protection (Love 2012:24). Coastcare was one of four program streams under the Natural Heritage Trust (together with Landcare, Bushcare and Rivercare), with 'aquatic ecosystems' and 'protected areas' identified as two out of 10 broader-scale priority areas (Love 2012:38). The advent of Caring for Our Country (Table 30.1) saw 'coastal environments and critical aquatic habitats' specified as one of six national priority areas (Love 2012:47). Headline achievements identified in a five-year report on the first stage of Caring for Our Country cited 'improvements in the Great Barrier Reef's water quality [and] engagement of over 4,500 community groups to protect, restore and conserve coastal and critical aquatic habitats' (Commonwealth of Australia 2015:41).



## SDG 15: Life on Land

The 15th SDG is 'Protect, restore and promote sustainable use of terrestrial ecosystems, sustainably manage forests, combat desertification, and halt and reverse land degradation and halt biodiversity loss' (UN General Assembly 2015:14). The Australian State of the Environment report 2016 (Commonwealth of Australia 2017; DEE 2018) is described by the Environment Institute of Australia and New Zealand, Australia's leading group of environmental practitioners, as painting 'a "sobering picture" of continuing deterioration in the Australian environment' (EIANZ 2017:1). Land degradation was the initial primary focus of Landcare, with increasing attention given to biodiversity loss marked by the launch of Bushcare under the Natural Heritage Trust. At Landcare's launch in 1989, the then prime minister declared that:

None of Australia's environmental problems is more serious than the soil degradation in this region and over nearly two-thirds of our continent's arable land. Accordingly, we are declaring next year the Year of Landcare it will be the first year in a Decade of Landcare that will provide as never before a focus for protecting the most fundamental ingredient both of our natural environment and of our agricultural prosperity our soil (Hawke 1989).

A few years later, the preamble to the Natural Heritage Trust legislation stated '(t)here is a national crisis in land and water degradation and in the loss of biodiversity' (Commonwealth of Australia 2015:9).

An assessment by Love (2012) of Landcare's achievements states that it has:

enabled thousands of people across communities since the 1980s to develop their capacities in skills, knowledge and application to progress:

- the repair of land degradation on private and public land across the country including soil erosion, water quality and ecological decline
- the prevention of further degradation to the natural resource base (Love 2012:52).



## The story of Landcare is one of partnerships.

According to Curtis et al. (2014):

(t)here is credible evidence that participation in Landcare activities, including meetings, workshops, field days, trials, property and catchment planning is a precursor to the accomplishment of on-ground work expected to lead to improved environmental condition (Curtis et al. 2014:185).

Wilson (2004) argues that 'Landcare's innovative approach of mutual farm visits, and its emphasis on the demonstration of "best practice", has led to both an increased awareness of land degradation problems and the creation of grassroots "information networks"' (Wilson (2004:461). A comparison of Landcare and non-Landcare participants found that landcarers had 'significantly higher levels of knowledge of land and water degradation processes and sustainable farming practices recommended mitigating or preventing the degradation of natural resources' (Ferraro 2013:16, citing Curtis 2003).



### SDG 17: Partnerships for the Goals

The 17th SDG is 'Strengthen the means of implementation and revitalize the Global Partnership for Sustainable Development' (UN General Assembly 2015:14). The story of Landcare is one of partnerships. Firstly, in the mid-1980s between farmers cooperating across boundaries, which became elevated to a partnership and pact between the National Farmers' Federation and the Australian Conservation Foundation, and the uptake of their proposal by the Australian Government at the time (Robins 2018). At the time of the announcement of the Decade of Landcare, the government added another partnership to the mix in form of Landcare Australia, with its mandate of promoting Landcare and seeking private sector sponsors. Since then, Landcare has built many partnerships for sustainable development both horizontally (within levels, like collaborations across Landcare groups or individual Landcare groups working with local businesses) and vertically (between levels, like collaborations across tiers of government). According to Victoria's Department of Environment, Land, Water and Planning, Landcare is 'a partnership between production and conservation, with whole communities caring for the land – local councils, conservation groups, schools and interested individuals' (DELWP 2018). A 2012 review of Caring for Our Country gave emphasis to partnerships stating: 'It is vital that our society achieves a sustainable relationship with the Australian environment. This can only be done through partnering at all levels' (Munday 2017:223). Munday (2012) offers an alternative vision than that presented in Australian Framework for Landcare, namely 'a partnership between the community, government and industry that leads the world in continuous improvement of the condition of our natural environment'.

One partnership that was not envisaged from the onset was Landcare networks, which now form an important tier of NRM governance. Curtis et al. (2014:186) reports that 56% of all Landcare-type groups in Victoria were part of a larger Landcare network in 2009, and 'there was evidence that these networks substantially enhanced the capacity of groups to engage other partners ... and increase the amount of work implemented by groups'. The authors also reported that 'networks of groups typically engaged more landholders



and volunteers, developed partnerships with other organisations, operated across larger areas, managed larger budgets, and accomplished more on-ground work across a wider range of topics' (Curtis et al. 2014:186, citing Curtis and Sample 2010). There now exists a National Landcare Network, formed in 2011, to 'foster a cohesive and cooperative forum to collaborate, support, advocate for and add value to Landcare and other community, volunteer natural resource management groups; foster strategic partnerships; celebrate Landcare achievements; represent community-based Landcare at the national level; and speak as the national voice in the development of Landcare and broader natural resource management policy' (Love 2012:50). Similar networks exist across regional NRM organisations like NRM Regions Australia – 'the representative group of the National NRM Chairs' Forum – where chairs from Australia's 56 regional NRM bodies convene to build networks, share information and receive briefings on strategic direction for NRM policies and programs' (NRM Regions Australia 2018) – and the Rangeland NRM Alliance, which comprises 15 regional NRM organisations.

## Conclusion

This paper has focused on 12 of the 17 SDGs in mapping aspects of Australia's Landcare experience. Each offers a window into the richness and diversity of how Landcare has unfolded across the nation over a period of more than three decades. These SDG-framed vignettes demonstrate the versatility of the landcare approach across issues, landscapes and communities, and its resilience in the face of an ever-changing operating environment. Despite the challenges, Landcare has made and continues to make a significant contribution to achieving the SDGs in Australia, and has provided a blueprint that has been taken up and adapted in other country contexts like the Philippines, Iceland and New Zealand.

Love (2012:51) concluded that 'Landcare, an approach consisting of an ethic, movement and model, has been instrumental in achieving broadscale community involvement and improved systems of sustainable resource use and management across Australia', and that '(a)chievements directly attributable to Landcare are profound' (Love 2012:52). She emphasised that both the landcare ethic and the landcare movement have been 'enduring' compared to the landcare model, which has 'waxed and waned' (Love 2012:53). Robins (2018) cautioned that the landcare story is not one of outright success or failure, venturing 'that it has been thwarted by misguided policy settings and associated institutional arrangements, which has undermined realisation of its full potential'. The evidence suggests that landcare could have been (and could still be) much more successful in Australia with better policy settings and institutional arrangements (Robins and Kanowski 2011; Robins 2018).

Munday (2012), at a national-level Landcare conference, reflected:

Landcare commenced with a big bang. It has served Australia well for over two decades during which it has been admired and envied, loved and abused. It has a level of recognition that many commercial and organisational brands would kill for.

If Landcare is to provide a useful local self-reliance approach in realising global sustainability, and in achieving the SDGs in particular, attention in other country contexts will need to extend beyond the many success stories of individual groups to considering the status of, and how to build and sustain, the necessary supportive policy settings and institutional arrangements.

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Photo: Jeffrey Maitem



# CHAPTER 31

## Strengthening national governance systems to support local self-reliance

Allan Dale and Michele Dale


### Abstract

The Australian and increasingly international landcare movement reflects renewed recognition of the concept of personal and local self-reliance within national, provincial and local governance systems. While the word 'subsidiarity' is seldom used to describe landcare, the concept deeply espouses and reflects a key governance system principle. Subsidiarity is all about the making of decisions at the most appropriate scale to effect positive outcomes for society. In many of our nations, the emergence of more centralised forms of governance have tended to eschew the subsidiarity principle, implicitly (and often explicitly) diminishing the importance and profile of local self-reliance. This ongoing problem in governance systems across the world brings significant risk to policy domains that fundamentally rely on the behaviour of individuals, property owners and local communities as the first line of action.

This chapter explores why local self-reliance is so critical in many policy domains, ranging from environmental management to health and social welfare, disaster preparedness and response, law and order, counterterrorism and even economic development. It then explores several common dilemmas and trends in national approaches to governance that weaken local self-reliance. Finally, the paper explores what governments can do (from national to provincial and local levels) to revisit the subsidiarity principle. In doing so, we celebrate the concept of landcare as a grassroots movement of extremely wide importance.

## Introduction

In this book, Landcare is not so much celebrated in its own right, but as an exemplar of the concept of communities adopting local self-reliance in securing key societal (in this case improved natural resource management (NRM) or environmental) outcomes. While the Landcare brand and terminology originated in rural Australia in the 1970s and 1980s, similar movements based on related concepts have emerged across other parts of the world. Australian landcare originally emerged as a result of higher-level policy failures to recognise and arrest land degradation in more developed agricultural landscapes within Australia, and most particularly to deal with soil erosion in cropping lands and the insidious spread of soil salinity. In many localities, this movement for building local self-reliance is credited with preventing the economic, social and ecological collapse of several agricultural production systems, regions and local communities (Cary and Webb 2001). Whether in Australia or elsewhere, several key features of the movement are essential for building local self-reliance.



**In many localities, [the landcare] movement for building local self-reliance is credited with preventing the economic, social and ecological collapse of several agricultural production systems, regions and local communities.**

### Shared solutions to shared problems

Landcare builds on the principle that ‘a problem shared is a problem solved’. Farmers facing rising saline water tables, for example, are simply unable to resolve such complex problems through individual actions within their own farm boundaries. Solutions to problems like these require collective and evidence-based action at the landscape scale (for example, through extensive reforestation of upper slopes and coordinated drainage). This is a feature of many other economic, social and environmental problems facing local communities. Through Landcare-like movements building local social capital, the prospect of resolving shared problems improves, contributing a bit-part in the resolution of recognised national policy problems.

### Building an informed and shared response narrative

The building of a strong, scientifically informed understanding of complex shared problems is often a key feature of landcare. Many complex problems facing the sustainable use of natural resources, for example, have emerged because of longstanding and outdated local philosophies and cultures that may no longer be useful in the modern context. Through people in the local community coming together around acceptance and analysis of shared problems, a social framework for the injection of scientific and new knowledge is often secured. Groups often initially come together in a problem identification phase, either just to share local knowledge or to partner up with the science community to explore the nature of the problem being experienced. As Andres Arnalds, Jonina Thorlaksdottir, Brian Slater and Fred Yikii argue in Chapter 24, ordinary people – local community members – contribute to and become participants in the scientific process. Arnalds et al. also show that action learning-type experiments are often set up as an important step in problem analysis, contributing to the building of trust between farmers and scientists.

## **Extension and individual capacity building**

Once a shared social narrative begins emerging around locally agreed problems, then the diffusion of knowledge can start to seep beyond the innovators and leaders who have taken the initiative to move things forward. Landcare-like movements often actively diffuse new approaches and set the foundations for more collective action from within the community itself. Many governments have experimented in more top-down and regulatory approaches to changing local behaviours, often with more limited success and at a much higher cost than mobilising and normalising local community action.

## **Local action, global impact**

Landcare-type movements frequently espouse the notion that, while the actions taken are essentially local, when viewed together, these local responses can collectively add up to meaningful change at higher levels, building the sense that more national or global problems can be manageably solved through local self-reliance. In the context of complex national policy problems, this again reminds us of the subsidiarity principle, and particularly that the resolution of national, or even global, problems might have very local foundations. The subsidiarity concept, however, reminds us that not all change has bottom-up or top-down qualities, but that an alignment of policy vision, strategies and delivery systems should indeed be polycentric and vertically integrated – that local self-reliance movements can inform national policy, while national policy might be able to foster and enhance the strength and resilience of local self-reliance movements.

## **Landcare as a self-reliance exemplar**

While not exhaustive, the above discussion articulates just some of the key features of landcare that are equally suitable to policy and delivery settings related to many broad societal problems. Additionally, while the landcare movement has tended to be associated with the resolution of rural productivity or environmental problems at the local scale, it is clear that these key features could indeed be applied to health, disaster response, law and justice, and many other complex societal problems that resonate at the local or community scales. While this is the case, however, strong national policy narratives that might espouse landcare-type concepts or principles remain rare.

## **A tendency towards more centralised governance systems**

The pervasive tendency for governments to centralise and micromanage control over society at even the most localised levels is nothing new. It's a problem that has plagued modern humans ever since our governance systems started stretching beyond tribal and clan-based forms of human organisation. In a governance and political sense, however, the major downsides that more centralised societies experience are well known compared to those that have a higher level of polycentric subsidiarity. The most obvious is the potential risk of a slide towards dictatorship, ultimately leading to more risk of international conflict, and, just as importantly, domestic civil unrest and societal fracture. Well before these extreme outcomes, however, come far more mundane but no less-problematic concerns.

Greater power centralisation within society and less local self-reliance can have significant implications for the timeliness of responses, usually leading to the unnecessary escalation of the problem at hand. This might be best recognised when there are low levels of local self-reliance and when highly centralised governments are tardy in their response in post-disaster scenarios. There are countless examples in the governance literature of

governments becoming increasingly inert or 'constipated' as more and more decisions are retracted closer to the top of the power tree. A second major problem simply emerges through greater inefficiencies and cost implications arising from less individual and local self-reliance. This, for example, is well understood in the context of health budgets internationally. Greater self-reliance emerges from people looking after their own personal health, and communities taking greater responsibility for ensuring all individuals have good nutrition and are active. The same outcomes are understood across environmental, social and economic policy domains.

Finally, national governments always run the risk of significant local disenfranchisement and indeed secessionist movements when there is not a strong interplay between national policy and programs and delivery systems that greatly enhance regional or local self-reliance. This reminds us that subsidiarity is a significantly different concept to devolution in the policy and delivery context. Societies that just leave local and regional communities entirely to fend for themselves without demonstrable support for strong capacity building for local self-determination can often foster fractures within the relationships between the nation-state and specific geographic areas or ethnic communities. This is a complex balance for societies to reach, but it is one that always needs to be explicit in any political narrative.

This chapter suggests that in any societal governance system, there will be constant forces or tendencies seeking to centralise power and to implicitly or explicitly diminish local self-reliance. This, for example, is often seen through the development and delivery of government programs that are reactive, short-term and oriented towards influencing the voting behaviour of key political constituencies. Such programs often explicitly diminish the building of local self-reliance. Over the long term, this style of governance and program delivery can increase local community dependence on government programs and diminish local capacities needed for self-reliance, building a cargo-cult type political culture.

## **Why maintaining subsidiarity and local self-reliance is critical in building more resilient societal governance systems**

In the international literature, it has perhaps been the discipline of psychology that most considers the importance of individual resilience, leading to a higher level of self-reliance. High levels of individual self-reliance are in turn considered to lift collective local forms of self-reliance. The social or community resilience literature has in turn stressed the importance of local self-reliance (most particularly in the context of disaster preparedness and recovery). Many thematic specific literatures, independently of each other, tend to draw on both the psychological and community resilience and social capital literature in hinting that high levels of self-reliance and social capital building are often the key foundations needed for the achievement of key societal outcomes (for example, in the health, environment, law and justice sectors). Few of these literatures, however, are embedded within an integrative governance narrative extolling the importance of the subsidiarity principle in enhancing decision-making from policy to delivery scales. The following briefly visits these literatures and examples from the practical world to show how building local self-reliance is a key feature of any robust but polycentric governance system (see Corlis 2017) and therefore that local self-reliance is a key to policy success.

## **Experiences in the health sector**

Several features of health policy rely on the development of significant self-reliance building systems at local scale. Recent learning based on experiences in pandemic responses (such as Ebola in Africa or, more recently, the global COVID-19 response) have reinforced the critical importance of local self-reliance in disease control (for example, see McKee et al. 2004; Abramowitz et al. 2015). Such experiences implore the importance of local trust building and neighbourhood-shared knowledge exchange. Similarly, in tackling the global growth of non-communicable diseases, greater emphasis is increasingly being placed on communities becoming the first line of defence in improving nutrition and encouraging an active and healthy lifestyle.

## **Experiences in the military and law and justice sectors**

For many years, local self-reliance concepts have been used in the law and justice sector, with many militaries increasingly adopting more socially informed approaches focused on 'winning the peace' as much as 'winning the battle' or 'winning the war'. Initiatives in both military and counterterrorism policies and the law and justice sectors often support such approaches. Local policing approaches, for example, recognise local self-reliance building efforts that can range from supporting the operation of neighbourhood watch-type programs, towards more community-based approaches to judgement making and sentencing, cross-business cooperation in electronic surveillance and security, and so on. In the fight against terrorism, law enforcement and intelligence agencies are increasingly working with faith-based institutions and different ethnic communities to increase their resilience against internalised radicalism. Equally, this sector also illustrates the distinction between devolution and subsidiarity. A purely devolved approach could result in an increase in vigilante groups responding to crime or terrorism, whereas a much more nuanced approach integrating different scales of action at national, provincial and local scales is required. This also means adopting policies for addressing these complex problems that are adaptive, seek to balance multiple objectives and trial multiple approaches.

## **Experiences in the disaster management sector**

There are strong parallels between the landcare movement and local disaster preparedness and response approaches that have increasingly been recognised in Australia and more broadly. Across Australia, for example, local rural bushfire brigades and emergency response groups (State Emergency Services) have been explicitly supported by policy and program funding for decades. Indeed, in recent years, there has been increasing connectivity between these movements and Landcare organisations, enabling the mobilising of more people more quickly in post-disaster scenarios. As many communities can frequently be highly isolated in the aftermath of natural or other disasters, the concept of self-reliance building and strong cross-sectoral connectivity is particularly important (Toshitaka 2014; Vance 2014). Equally, the sudden onset of disaster (for example, tsunamis, fires, storms and earthquakes) means a rapidly mobilised and timely response is often required.

## **Experiences in the economic and sustainable development sector**

The building of individual self-reliance is seen as a foundation for community development approaches to economic development (Godfrey 2008). Scaling up, through economic cooperatives for example, is perhaps one of the most enduring

and progressive examples of local (or in some cases sectoral) self-reliance building for economic development. Local cooperatives might form for several reasons, including knowledge sharing, input sharing and the building of a critical mass of product to improve market competitiveness. Successful economic cooperatives are those that apply many Landcare-like principles in their operation. Local community (or regional) development approaches are also often adopted in facilitating economic development (Binns and Nel 1999), particularly in developing nations and small towns subject to fluctuating economic or climatic conditions.

### **Experiences in the environment and natural resource management sector**

While Landcare is the classic Australian-oriented example of self-reliance building as a key to delivering environmental outcomes, there are numerous parallel examples across the globe in many local communities. It has only been in more recent years that the Australian Landcare brand has become increasingly recognised internationally. Examples of enduring and growing environmental or local self-reliance movements across the globe include cooperation and local approaches to the management of community gardens (food security), fisheries, forestry, hunting, farming and conservation activities.



**While Landcare is the classic Australian-oriented example of self-reliance building as a key to delivering environmental outcomes, there are numerous parallel examples across the globe in many local communities.**

### **Self-reliance building and the creation of functional societies**

If the above demonstrates that the building of local self-reliance is indeed critical to the achievement of key social, economic and environmental themes from many key national policy portfolios, it remains the case that few national governance systems explicitly espouse subsidiarity principles or extoll the virtues of explicitly building decision-making and delivery systems to grow local self-reliance. Even fewer seek to integrate their self-reliance building activities across sectors. There are several key reasons for this. These at least include:

- the strong influence of rationalistic or managerial policymaking theories or cultures at play in many nation-states
- a tendency towards centrist, less values-rich governing cultures
- an over-reliance within democratic systems (or even less democratic ones) on vote-buying populism, contributing to less self-reliance in communities and engendering a cargo-cult approach to governance
- strong departmental silos.

Given these systemic governance problems facing many nations, the following final section outlines some key strategies that politicians, administrators and leaders in civil society might be able to institutionalise to encourage self-reliance.



## How can national governance systems embrace local self-reliance?

Many policy and delivery systems can be better conceptualised and strengthened to build stronger individual and local self-reliance capacities within society. Establishing these foundations, however, is often best embedded within an explicit policy narrative that champions the concept of personal and local self-reliance as an important societal value. In terms of political narratives, perhaps most famously, this concept might simply be recognised in John F. Kennedy's famous inaugural address narrative: 'Ask not what your country can do for you – ask what you can do for your country'. While inspiring, however, that narrative should equally be balanced with a strong sense of mutual obligation: a sense that governments should be excelling in the policy and budgetary space while also providing the societal safety nets required for those who do fall through the self-reliance cracks.

To ensure that a well-institutionalised and consistent governance system and cross-governmental culture emerges and blossoms, governments might champion policy capacity building in fields like self-reliance. This could help build a policy focus on subsidiarity across all portfolios and departments. As in the examples mentioned above, it is easy to see how such concepts could be useful across health, welfare, environment, law and order, economic and other typical portfolios of government. Some other core cross-governmental strategies, however, can be focused on building a societal wide self-reliance culture.

### **Making federalism and local governance genuinely integrated**

Many nations suffer from competitiveness between different levels of government, with politicians at different scales seeking to be the policy saviours for local communities at various points in the electoral cycle. While polycentric and federalist governance systems might have great constitutional clarity about the responsibilities of different scales of governments, it does not always follow that the intent of national constitutions is always adhered to in practice. Strong federalist systems were often forged explicitly to maintain more regionalised or local notions of self-reliance, while creating higher layers of government that can more successfully achieve or prosecute shared local priorities (for example, defence). For societies to deliver on their constitutional intent to encourage local self-reliance while protecting the common good, there often needs to be a very explicit governance culture espousing subsidiarity.

### **Developing policy with an explicit focus on building capable delivery systems**

Within the international governance systems literature, the concept of implementation failure is increasingly being recognised in situations where policy problems are intractable or failing. Where implementation failure is being recognised, highly centralised forms of decision-making are often identified as problematic, alongside a lack of clear design around appropriate delivery arrangements. In policy arenas relating to preventing the loss of coral cover in Australia's Great Barrier Reef for example, Dale et al. (2017) recognise several factors contributing to slow policy progress that relate to a limited focus on grassroots implementation. These factors include a lack of explicit policy vision related to implementation, divergent delivery approaches being adopted by federal and state governments and stop-start funding cycles. In policy domains like this, which essentially rely on multiple small-scale actions, an explicit focus on building delivery systems based in local self-reliance is essential.

## **Delivering integrated investment through more devolved delivery systems**

Supporting the development of strong local self-reliance movements at the local scale can often have multiple benefits across different societal interests. In Australia and in parts of the Pacific, for example, there is an increasing focus of supporting the emergence of land and sea Indigenous ranger units, primarily to support sustainable management of land and marine resources. These units, however, are increasingly being used as key delivery agents for health, education and disaster-response activities. As these self-reliance movements grow in local areas that face critical resource shortages, integrating effort across portfolios makes a lot of sense. Such approaches improve response times when required and mean an integrated response can often be made when very complex problems face local communities.

## **Building individual and group self-reliance within the education system**

As many learning institutions transition to greater digital delivery of education, there is much new thinking in the educational design sector about building individual self-reliance. Another factor driving this discussion is the need to produce graduates for a very different future workplace environment – one that is focused on entrepreneurial innovation and the management of constant change. Within this context, it might be equally important to ensure that education for the future also lifts societal capacity for local self-reliance. A generational opportunity exists for governments to rethink these capacities in an integrated way across the preschool, school, vocational, tertiary and adult-learning education sectors.

As early as the mid-1980s, there was a growing realisation that an increasingly turbulent and complex workplace needed people who were self-reliant, creative, adaptable, collaborative and resilient (Hase and Kenyon 2003). Educational institutions charged with developing such personal qualities as self-reliance, creativity, adaptability, collaborative skills and resilience to produce these ‘work ready plus’ graduates (Scott 2016) inevitably mine the familiar realms of ‘helping theory’ – how do you help people to help themselves? This requires a rethink of traditional pedagogies, where learners are mostly guided by the ‘sage on the stage’ and moving beyond even the self-directed learner to heutagogical approaches, where self-determined learners not only decide when and how but also what to learn. The resulting learning environment provides for deliberate self-reflection on experiences, authentic learning, the nurturing of collaborative skills and lifelong learning (Narayan and Herrington 2014).

The combination of the contemporary focus on graduate attributes and an increasing capacity to convey them to a broader audience via digital technology bodes well for nurturing individual self-reliance on a broad scale. The arrival of the COVID-19 pandemic dramatically forced the hand of education providers globally to fast track the integration of education and online technology. Although the rapid pivot was generally unwelcome and chaotic, arguably it has the potential to facilitate equitable access to education for traditionally under-served cohorts on a broad scale.

## **Strengthening everyone’s capacity in institutional governance**

While there is an increasingly strong focus on education and capacity building to improve the governance of public and corporate institutions, there is very little awareness raising of, and education about, the importance of developing healthy societal governance systems. Within this deficit sits an even bigger lack of awareness raising and education about the

importance of building subsidiarity across scales within these systems, in particular, the important role of local self-reliance systems. Many different players within complex governance systems would benefit from such a capacity-lifting approach, including politicians, administrators, service delivery agencies and policy advocates.

### **Towards a 'systems doctor' within complex governance systems**

Finally, there is some emerging insight into the increasing need for legitimate third-party advocates within the system of governance for complex governance domains (see Dale 2015). If the role of such advocates is accepted and supported by different layers of government and key stakeholders within the policy domain, then the opportunity exists for someone in the system to agitate for continual improvements in the way the governance system operates. We refer to such a party here as a form of 'systems doctor' – an independent but collaborative agent charged with bringing key players in the governance system (from policymakers to service agents and clients) together to help analyse problems facing the system in delivering its intended policy outcomes. Such a party could also help those responsible for the system to design and institutionalise adaptive reform. Such arrangements would need to focus on understanding healthy governance systems, and in theory, should fully understand the need to build subsidiarity (and local self-reliance) into the system. While rare, such arrangements do exist, and more so in some sectors than others. In the justice system of many countries, for example, the coroner's office or an ombudsman's office may play such a role, but these arrangements are generally not focused on 'whole of system' analysis, and may not be responsible for driving the implementation of continuous reform. In New South Wales, Australia, the state's NRM portfolio recently ran a natural resources commission, while the Australian Government ran a water resources commission. Both institutions have since been abolished, suggesting that the position of such third-party arrangements can be tenuous if there is not a strong political commitment to open and accountable governance and continuous policy improvement.

## **Conclusion**

With Landcare being a strong exemplar of the importance of local self-reliance movements, this chapter has aimed to outline why the concept of subsidiarity is essential within the system of governance underpinning many different policy domains. These range across economic, social development and environmental policy themes and portfolios. While it provides the first line of action in policy delivery, the theoretical literature on strengthening complex governance systems has not strongly espoused the importance of local self-reliance. We would call for a more significant focus on subsidiarity and local self-reliance building within policy debates across the globe and within the wider academic literature. Many factors see governments (at national, state and local levels) tend towards greater centralisation of decision-making, often leading to significant policy and delivery failure, inefficiency and poor outcomes for local communities. Landcare and other similar local self-reliance movements across the globe help provide solutions to this problem.

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