Evaluating landcare groups in Australia: How they facilitate partnerships between agencies, community groups, and researchers

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Landcare groups emerged in Victoria—Australia’s second most populous state—during 1986 (Campbell 1991) and have been embraced by governments throughout Australia as a model for effective community action toward more sustainable resource use. With more than 2,000 landcare-type groups operating across Australia involving more than 25 percent of the farming community, there is evidence to support Campbell’s earlier statement that “the landcare movement is undoubtedly the most exciting and significant development in land conservation in Australia.” While governments espouse a landcare program that embraces all facets of sustainable resource use, it is the emergence, growth, and activities of this large number of voluntary groups that has captured public attention and distinguished landcare from previous efforts to achieve sustainable resource use in rural Australia.

Most landcare groups have developed in rural areas, have voluntary membership, and are open to any member of the local community. Groups frequently operate at catchment (watershed) or sub-catchment scales and are involved in a variety of activities covering the range of issues related to catchment management.

Landcare in Australia is a partnership between government and local communities. This partnership attempts to combine the technical expertise, access to funding sources, and commitment of agency staff with the indigenous knowledge, skills, and on-ground work of enthusiastic local participants. Campbell (1991) emphasized that “the degree of group autonomy...is quite distinct from past group approaches to soil conservation.” Edgar and Patterson explained that while landcare in Victoria was a government program, “from the beginning the emphasis was on developing and maintaining a genuine grass roots approach” and “groups are free to define their own objectives and program of activities.” The key assumptions underlying landcare (Figure 1) are that with limited gov-
Figure 1. Assumptions underlying community landcare programs in Australia
- limited government funding of a community development process in rural Australia
- alter perceptions of resource management issues
- develop greater stewardship ethic
- increase knowledge and skills of resource managers
- increase adoption of best bet practices
- assist move to more sustainable resource management

Figure 2. Measures contributing to index of group effectiveness
Index of 'work undertaken' (past 12 months)
- number of trees planted
- length of fencing erected to control stock access to sensitive areas such as water courses and remnant vegetation
- area of perennial pasture established
- number of pest animal, weed, erosion and salinity control activities
- number of members undertaking whole farm planning as a percentage of group membership

Index of 'community co-operation' (past 12 months)
- number of general meetings held
- number of visitors studying or observing landcare group work
- number of field days/farm walks held
- percentage of landholders in area who are group members
- number of demonstration sites established
- number of other promotional activities

government funding, landcare group action will facilitate the process of community development, produce more aware, informed, skilled, and adaptive resource managers, and thereby result in the adoption of more sustainable natural resource management practices.

Evaluating landcare programs
Some preliminary evaluation of landcare groups has occurred (Woodhill, Campbell 1992; and Curtis et al.), however, state and federal landcare organisations are only beginning to focus on this topic. Since 1988-1989, Victorian landcare groups have submitted annual reports to the State Department of Conservation and Natural Resources (CNR). In the early years of this process, groups responded to a series of questions on an on-page sheet mailed from CNR in Melbourne. Landcare group executives were responsible for completing reports which were often verified by agency contact staff. In an analysis of existing data obtained from CNR, Curtis et al., (1993) described key aspects of the work of Victorian landcare groups and identified indicators that enabled a preliminary assessment of the effectiveness of Victorian landcare groups. Drawing upon this experience, and in collaboration with agency staff and other landcare participants, we prepared a new, 12-page survey booklet, which was distributed by CNR to a majority of Victorian landcare groups in September 1992. Analysis of these surveys is completed and a report has been prepared for the lead agency and a summary report was distributed to landcare groups.

The Victorian group report
Evaluating landcare group activity is a complex undertaking that requires more than one data collection instrument. However, the Victorian group report process was a cost effective method of gathering data which would produce the following results:
- increase understanding of what groups do and how they operate;
- provide a means of assessing the effectiveness of groups and the impact of some factors likely to affect group performance;
- and assist understanding of key issues such as burnout of groups and leaders, the nature of agency/group relationships, and the role of women in landcare.

If the assumption underlying landcare is that landcare group action will facilitate community development and thereby produce more aware, informed, skilled, and adaptive resource managers and result in the adoption of more sustainable natural resource management practices, an assessment of landcare groups must attempt to determine whether this has been accomplished. There is, however, some debate about the extent to which landcare groups are expected to effect changes in land management practices and accomplish significant on-ground work. Some commentators suggest that given the limited resources of these volunteer groups their prime role is to facilitate the process of community development—not to fix the problems themselves. It can also be argued that in some states groups have not been operating long enough to have affected land management practices. This is not the case in Victoria, however, where by July 1992 about 35 percent of the groups had been operating for more than three years.

While sustainable resource use goes beyond the farm gate, it is clear that landcare in Victoria is intended to achieve more sustainable use of Australia’s farm lands (Department of Conservation and Environment (DCE)). Any evaluation of the work of landcare groups must therefore address the concept of sustainable agriculture in Australia. As Reeves, Cameron and Elias, cited and Cary explained, no one with certainty can prescribe the conditions for sustainable agriculture in Australia. Evaluation of landcare should therefore focus on assessing
the extent to which landcare is assisting the move to more sustainable systems of agriculture.

Given the difficulty of identifying meaningful biophysical changes in the short term, we identified a number of intermediate indicators of how landcare group action was facilitating the adoption of practices and on-ground work likely to assist the move to more sustainable resource use. A number of best-bet practices, which are the focus of group and extension activity throughout much of Victoria, were identified (Curtis et al. 1993). Given the limitations of a cross-sectional study of groups rather than individuals, no attempts were made to directly assess the impact of landcare upon awareness of issues, upon attitudes such as developing a stewardship ethic, or upon skill and knowledge acquisition. Instead, we focussed upon assessing the extent to which groups had mobilized community action likely to increase awareness, develop a stewardship ethic, or develop land management skills and knowledge.

Also part of the analysis was the construction of an index of group effectiveness, which assisted in identifying the characteristics of more (or less) effective landcare groups. Equal weighting was given to measures selected to contribute to the index of 'work undertaken' and the index of 'community co-operation' (Figure 2). Groups were ranked on each measure and rankings were used as group scores for each measure. A group's score on each index was combined to calculate a 'final rank' of group effectiveness. The 'final rank' enabled the researchers to identify 'highly effective', 'effective', and 'less effective' groups and assess the extent to which all groups were making a substantial contribution to the process of sustainable resource use. The characteristics of these different sets of groups were also described and tested for significant relationships between 'final rank' and independent variables such as group age and levels of government funding. Measures selected to contribute to the indices of 'work undertaken' by landcare groups and their members and 'community co-operation' mobilized by group activity are summarized in Figure 2.

In July 1992 there were 301 landcare groups in Victoria. While we, as well as the state landcare manager, had intended to survey all landcare-type groups, practicalities and landcare politics conspired to reduce the number of those surveyed to 220 groups. With 117 responses included in this analysis, a survey response rate of 53 percent was achieved. In the year from July 1992, an additional 105 groups were added to the list of landcare groups in Victoria. Despite the need for some caution in assuming these new groups will operate similar to existing groups, we have extrapolated from the sample to the then current population of 407 landcare groups.

Findings

Mobilizing community cooperation. The success of landcare groups in mobilizing community co-operation to achieve more sustainable resource use was confirmed in the group reports. The reports showed a Victorian landcare group membership of 14,800 with an additional 17,000 people visiting to assist or study landcare work. Indeed, 89 percent of the sample landcare groups reported visitors assisting with landcare work and 93 percent of groups reported visitors studying or observing landcare work. Analysis of group reports also revealed a mean member participation rate of 58 percent per group activity. Where groups operated, they had mobilized a large percentage of rural landholders—with a mean of 55 percent of properties reported having a group member. These findings suggest landcare is a mainstream approach to the task of achieving sustainable resource use in Victoria.

The reports also showed that a majority (61 percent) of groups publish newsletters, with most groups publishing six editions and distributing newsletters to landholders both in their local area and to others outside their group area. Again, the reports showed evidence of groups undertaking an educational/publicity role that extended beyond their immediate landcare area and confirmed the view that "landcare groups have recognized the importance of contributing to education and the shaping of community values" (DCE). A majority (87 percent) of the sample landcare groups had conducted other promotional activities with 60 percent of groups involved in writing letters and articles to newspapers, more than 40 percent had conducted displays and promotions or hosted visits or tours, and 15 percent reported being involved in publishing books or kits. By adding junior landcare/saltwatch (36 percent) to education (46 percent), the broad category of education/promotional activities was undertaken by 82 percent of groups. Groups reported receiving assistance from a variety of non government sources—often from outside the traditional farmer support base—with business assisting 43 percent of landcare groups, farmer groups 30 percent, conservation groups 28 percent, and education groups 25 percent.

Responses also indicated that 53 percent of Victorian respondent landcare groups had or were preparing a whole catchment plan. Fifty percent had established demonstration sites, 62 percent had conducted field days, and more than 70 percent had conducted two or more of these activities. The trend for groups to adopt a holistic approach to resource management was highlighted by analysis of field day and demonstration site reports, which revealed a focus on the implementation of strategies to tackle issues—such as perennial pasture or revegeta-
tion—rather than upon the issues themselves. However, evidence that 33 percent of groups reported not having established annual priorities should be of concern to landcare policy makers, extension staff, and landcare participants. Bivariate analysis using Spearman's coefficient of rank-order correlation ($r_s$) revealed a significant positive relationship between the number of promotional activities undertaken and group ranking on the index of 'works undertaken' ($r_s = 0.3571, n = 117, P < 0.01$). While causal relationships are complex, this finding suggests there may be a link between activities that raise awareness and individuals and groups adopting more sustainable practices—a key assumption underlying the community landcare program.

A vast scale of action

In many ways, participation is a prerequisite for action and the group reports revealed the vast scale and scope of landcare work undertaken by groups and individual members and suggested groups were an effective approach to extension.

Tree planting and fencing. Tree planting by landcare groups may be for aesthetic purposes or to reverse long term land degradation issues such as tree decline, rising groundwater tables, and declining biodiversity (and thereby also protecting farm incomes). Fencing also is an important and expensive part of landcare activities and can serve to protect habitat from stock and animal pests and establish riparian corridors. Extrapolations from the reports show that Victorian landcare groups planted 3.2 million trees and erected 7.7 thousand km (4.62 thousand m) of fencing valued at $15.4 million during 1992–1993.

Perennial pasture improvement. Perennial pastures are believed to increase farm returns, assist in weed control, and reduce excessive water flows in catchments that contribute to erosion and salinity problems. Fifty-two percent of groups had perennial pasture establishment/management as a topic for field days/farm walks or demonstration sites. This topic was second only to revegetation. The results also revealed a surprisingly high level of perennial pasture establishment, with a mean of 46 percent of all pasture in the sample groups sown to perennial grasses. It is possible respondents have different concepts of what is meant by established perennial pasture and we suggest these findings be verified at the local level.

Specific land degradation problems. Responses revealed that groups were active in attempting to manage particular land degradation problems in their area. For instance, of the groups indicating that rabbits were of at least some concern, 50 percent had organized rabbit control activities, with a mean of 4.1 activities per group; 56 percent of the groups indicating that weeds were of at least some concern had conducted weed control activities, with a mean of 3.2 activities per group; 32 percent of the groups indicating that soil erosion was of at least some concern conducted soil erosion control activities, with a mean of 5 activities per group; and 43 percent of the groups indicating that salinity was of at least some concern had conducted salinity control activities, with a mean of 2.9 activities per group.

Whole-farm planning. Whole-farm planning, increasingly referred to as property management planning, involves land use based on land capability (Campbell 1992). The practice is promoted among landcare groups as an essential tool for sustainable land management at the farm level. The reports showed a considerable increase in the percentage of groups (from 38 to 66 percent) involved in whole farm/property planning. Only 19 percent of the groups, however, had more than 50 percent of their membership involved in whole farm planning activities. Advocates of whole farm planning might take some comfort from the results of bivariate analysis using Spearman's coefficient of rank-order correlation ($r_s$). That analysis revealed a significant positive relationship between the percentage of group membership involved in whole farm planning and group performance on the index of effectiveness ($r_s = 0.2715, n = 112, P<0.01$).

Conservation cropping. Conservation cropping appears to be the current best bet practice for sustainable cropping in southeastern Australia. Conservation cropping embraces a range of tillage practices including minimum tillage (direct drilling), stubble mulching, and the production of grain legume crops. As Seid et al. acknowledged, "the change to conservation tillage cropping systems has been slow but steady." The group reports revealed that a mean of 37 percent of land was cropped using conservation cropping practices. However, 48 percent of groups reported that less than 20 percent of land was cropped using conservation tilage practices. This suggests a low level of adoption of conservation cropping practices in many landcare areas. It is possible that landcare groups have been poorly utilized as an extension strategy for conservation cropping. Part of the explanation for low adoption rates might also be attributed to farmer perceptions of the high costs and risks associated with this technology.

Government funding of landcare groups. The group reports confirmed earlier findings (Curtis et al. 1993) about the effectiveness of government funding of landcare group activity in terms of group contributions (mean of $17,523) exceeding direct government funding (mean of $10,657). Almost all groups (92 percent) reported direct government assistance. Bivariate analysis using Spearman's coefficient of rank-order correlation ($r_s$) revealed a significant
positive relationship between government funding received and group performance on the index of effectiveness \((r_s = 0.4957, n = 95, P < 0.01)\). Bivariate analysis also revealed a significant positive relationship between group performance on field days/farm walks and their performance on the index of works undertaken \((r_s = 0.3745, n = 94, P < 0.01)\) and between group performance on field days/farm walks and group performance on perennial pasture establishment \((r_s = 0.2962, n = 65, P < 0.05)\). While causal relationships are always complex, this information suggests government funding of demonstration and educational activities is an effective extension strategy.

The rapid expansion of Victorian landcare groups (100 new groups in each of the past two years) also has important implications for government policy makers through the need for new funding and increases in existing funding. For example, the reports show that a very low percentage of creeks and rivers are fenced to control stock access (mean of 20 percent, with a majority (51 percent) reporting less than 10 percent of rivers/creeks fenced). This demonstrates one need for additional funds to undertake landcare work that has considerable off-farm benefits.

Success with the participation of women. Victorian landcare groups have successfully involved a large number of rural women as members, making up 34 percent of all members (47 percent of all secretary positions). Bivariate analysis using Spearman's coefficient of rank-order correlation \((r_s)\) revealed a significant positive relationship between the membership of women and group performance on the index of effectiveness \((r_s = 0.2319, n = 86, P < 0.05)\).

Evidence that 90 percent of chairperson positions were held by men, however, appeared to confirm the feminist critique of gender roles in Australian society in that women landcare participants may be undertaking the demanding and unpaid administrative and secretarial support for groups while men retain the positions of authority and power. Recent research by Curtis et al. (1994) revealed that participation and experience of landcare was affected by gender. He reported that women were apprehensive about joining landcare groups and were often denied a voice in group decision making because their role as important land managers with considerable expertise in land management was not acknowledged by men. While landcare participation was a positive experience for most women, Curtis et al. (1994) recommended that groups provide a greater variety of experiences that reflect the interests of women and provide opportunities for all family members to participate in landcare.

Affirmation of the agency-group relationship. The group reports confirmed both the importance and the strength of the government-agency relationship that is fundamental to landcare. Seventy percent of respondents indicated their agency contact officers regularly attended group activities and 59 percent indicated their contact officers played an important role in group decision making. There was no evidence in the other comments section of the group reports to suggest that contact officers had undue influence on group decision making and the overwhelming majority (92 percent) reported their contact officers showed respect for the skills and knowledge of most members. Ninety-eight percent of respondents indicated that information and advice relating to land management was adequate and 82 percent rated assistance with group administration as adequate. While the reports provided strong affirmation of the agency-group relationship, a large minority (45 percent) of respondents indicated that government assistance in the form of money and materials to tackle land degradation was inadequate. Almost half (49 percent) of the groups reported inadequate government assistance with leadership and organizational skills training. The report therefore, provided strong evidence of groups requesting training in leadership and group management skills.

Burnout among leaders and groups. No evidence of burnout among groups or leaders affecting group performance was found in the reports. Indeed, bivariate analysis using Spearman's coefficient of rank-order correlation \((r_s)\) revealed older groups performed better on the index of effectiveness \((r_s = 0.2011, n = 116, P < 0.05)\). The reports also suggested a high level of member participation in group activities (mean member participation rate per group activity of 58 percent) and a relatively low level of membership turnover (new recruits past year contributed a mean of 20 percent of group membership). The potential for burnout among group leaders would appear to be greatest when leaders have few opportunities to pass the task of leadership to others. The results revealed that a majority of groups operating for two years or more reported changes in leadership (secretary and chairperson positions) and suggested leaders were able to step aside if they wished. Indeed, 78 percent of groups operating for five years and more reported having four or more leaders. Nevertheless, as the large number of relatively new groups move beyond goal setting and begin to tackle the vast land management problems that exist, falling enthusiasm may become a significant issue affecting group performance.

Conclusions

A comprehensive evaluation of landcare groups requires a variety of approaches at different geographic scales. However, the group activities report process is cost effective, appears to provide useful information for policy makers, and contributes to the process of community development by stimulating groups to reflect
upon their progress. Analysis of information in the Victorian reports provided us with a strong sense of the vast scale of public participation and community action facilitated through landcare groups and suggested that most of these volunteer groups had assisted the move towards more sustainable resource use.

The reports affirmed the strength of the agency-group relationship fundamental to landcare. However, senior agency staff responsible for landcare planning must recognize that volunteer organizations such as landcare groups are not a self-managing or cost-free extension service. Groups have requested additional assistance with leadership and organizational skills training and more funds to undertake important landcare work such as fencing of water courses. Agency staff must also acknowledge the uncertainties associated with a number of the best-bet practices they promote to groups and tap the indigenous knowledge of local landcarers in participative approaches to research and extension. The focus must remain upon the groups who are ‘getting the job done’.

The perceived success of landcare can be attributed to the fact that landcare groups represent a new, participative approach to resource management. A vital element in this approach is citizen participation in decision making about the issues that affect them. As Curtis (1993) explained, governments in Australia are adopting regional planning for the management and funding of environmental issues and opportunities are emerging for landcare groups to participate in regional decision making forums. At present, Victorian groups rely upon government agencies for inter-group communication and linkage to wider landcare related decision making forums. Edgar and Patterson revealed considerable understanding of this issue and an enlightened agency perspective when they suggested “the autonomy of the groups would be enhanced if they were less dependent on government for the facilitation of inter-group communications.” Landcare groups must grasp these opportunities to participate in decision making on the ‘big picture’ issues. The achievement of sustainable resource management requires groups to address the impact of land tenure systems, commodity marketing arrangements and financial planning as much as addressing soil erosion or pasture improvement.

It is unreasonable to expect volunteer community groups with limited funding to overcome what are often intractable resource management problems in a short time. Analysis of the Victorian landcare group reports, however, suggests landcare represents an effective partnership between government agencies and community groups engaged in the process of community development and that landcare is assisting the move to more sustainable resource use in Australia.

REFERENCES CITED


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