Policy Reviews

Landcare and Catchment Management in Australia: Lessons for State-Sponsored Community Participation

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Rural Australia is beset by a range of difficult, long-term environmental problems impacting on agricultural productivity, biodiversity, public health, and living standards. State intervention can be justified in terms of the public benefits that often flow from remedial and preventative works. While a suite of instruments has been used, intervention has focused on promoting voluntary change using participatory approaches. The National Landcare Program, the billion-dollar Natural Heritage Trust, and establishment of an institutional framework for regional catchment management have been the main mechanisms for delivering government support to private land managers. Recent experience in Australia suggests that state-sponsored citizen participation can work. Critical factors identified include separating the roles of regional planning bodies and local organizations; effectively linking regional bodies and local groups; establishing robust, productive agency-community partnerships; adopting benefit-based cost-sharing mechanisms for public investment on private property; and designing flexible policy packages, including economic incentives for landholders to maintain the supply of public benefits.

Keywords: community participation, Landcare, rural development, watershed management

Large-scale vegetation clearing, grazing and cropping practices, river regulation and irrigation, and the introduction of exotic animals and plants are critical processes contributing to a range of difficult, long-term environmental problems in rural Australia. Issues such as dryland and irrigation salinity, soil erosion, soil acidity, declining water quality, and loss of habitats threaten agricultural productivity, public health, and living standards. A 1995 estimate of the cost of land and water degradation in terms of lost agricultural production was $1.41 billion. There is also a clear link between the condition of private land and biodiversity conservation. Australia’s network of protected areas covers only 6% of the continent and is fragmented and unrepresentative. In some bioregions, most remaining natural environment is located on private or leasehold land (Thackway and Creswell 1995).

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A range of instruments has been employed by government to address these issues, including taxation and direct financial incentives for conservation works, legislative prohibitions, and investment in new technology. Intervention has typically focused on promoting voluntary change, and Australia has invested heavily in participatory approaches to planning and rural development. The National Landcare Program (NLP) and, more recently, the billion-dollar Natural Heritage Trust (NHT) and establishment of an institutional framework for regional catchment management have been the main mechanisms for delivering government support to private land managers.

In this article we reflect on recent Australian experience to explore what might best be described as a practical model of state-sponsored community participation. We draw on a variety of sources, including Australian and overseas literature; findings from our research in Landcare, remnant vegetation management, farm forestry, and protected area management; and our experience over the past decade as participants in the NLP and other community groups, and as ministerial appointees on regional Catchment Management Committees (CMCs) and the Murray–Darling Basin Community Advisory Committee.

Background to Resource Management in Rural Australia

The Community Landcare Program

Landcare first emerged as a distinctive entity in Victoria during 1986, and after lobbying from major farmer and conservation groups, the Commonwealth government committed spending $360 million in the Decade of Landcare program (Hawke 1989). Landcare means different things to different people. Most landholders see the Landcare program as a way of coming together and working with governments to fix problems in their local area (Campbell 1994). From a government perspective (Australian Soil Conservation Council 1991), Landcare was a catalytic program attempting to engage a large proportion of the rural population and produce more aware, informed, skilled, and adaptive resource managers with a stronger stewardship ethic (Curtis and De Lacy 1996a) and more sustainable resource management practices. Landcare involved limited government funding of education and demonstration activities, as opposed to direct funding of large-scale, on-ground work. Landcare was intended to achieve more sustainable use of Australia’s farming lands (Department of Conservation and Environment 1992) and enhance biodiversity (Farley and Toyne 1989).

Landcare attempts to work with a broad section of the rural community and has moved extension beyond the “expert farmer” group. There are now over 4000 Landcare type groups with around 120,000 volunteer members (Curtis and De Lacy 1996b), involving about 30% of the farming community (Mues et al. 1994), or an average of 50% of households where there is a Landcare group (Curtis and De Lacy 1996b).

The NLP embraced all facets of sustainable resource use, but it was the emergence, activity, and impact of voluntary, local community groups working in partnerships with agency staff that captured public attention and distinguished Landcare from previous strategies. Most groups were formed in rural areas, with membership voluntary and open to any local person. Groups frequently operated at catchment or subcatchment scales and were encouraged to approach their task hol-
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G"istically, using a systems approach. Groups have no legislative backing and are only
informally linked to local government and regional planning bodies such as CMCs.

While the focus of group activity is usually on privately owned or leased land
managed by group members, groups also work on roadsides, reserves, and other
public lands. Groups are involved in a variety of rural development activities. Meet-
ings are held to discuss issues, identify priorities, develop action strategies, and
debate resource management issues. Field days, farm walks, and demonstration sites
are used to identify best management practices. Information is exchanged through
educational and promotional activities such as tours, conferences, newsletters, and
field guides. On-ground works undertaken by groups include tree planting, building
salinity and erosion control structures, pest animal and weed control, and erecting
fencing to manage stock access to creeks and streams and protect native vegetation.
Group members also coordinate activities related to property and catchment plan-
ning, prepare submissions for government funding, and liaise with agency staff.

Despite impressive achievements, there have been concerns about Landcare
program logic and implementation. Landcare has been criticized as an exercise in
shifting responsibility for action from government to local communities (Martin et
al. 1992). It was undoubtedly cheaper to invest in Landcare as a process of aware-
ness raising and education than in funding large-scale on-ground work. Efforts to
develop a Landcare or stewardship ethic as a lever to effect behavioral change
appear to have been misguided (Curtis and De Lacy 1998). There have also been
concerns that Landcare and the NHT are a case of "too little too late" and would
not effect improvements at the landscape scale. There are ongoing concerns about
agencies co-opting Landcare. Agencies have accessed large portions of Landcare
funding (Alexander 1995), agency staff have played important roles in the decision
making of many groups, and government funding priorities have shaped group
activity (Curtis 1998). Conservationists are alarmed by continued loss of critical
habitats, and Dr. Bob Brown, Tasmanian Greens Party Senator, suggested Land-
care was overly preoccupied with increasing agricultural productivity and had not
adequately addressed biodiversity conservation (Grose 1994). A number of authors
have highlighted important group management issues, including inadequate leader-
ship and management skills training, gender stereotyping of leadership positions,
and limited intergroup communications (Alexander 1995; Curtis 1998).

Regional Catchment Management Committees

Recognition of the environment as an integrated system has led to the adoption of
total catchment management as a key planning framework for achieving ecologi-
cally sustainable development in Australia. By 1992, regional CMCs had been estab-
lished in most Australian states to provide community input into attempts at
catchment-based regional planning. CMCs usually comprise a mix of agency and
community representatives, including Landcare participants. Community represent-
atives have mostly been ministerial appointees. CMCs have limited legislative
backing and until recently were typically funded and coordinated by the lead agency
responsible for natural resource management in each state. CMCs are responsible
for developing and implementing regional catchment strategies. They also manage
the Regional Assessment Panels (RAPS) that assess community, nongovernment
organization, and state agency project applications as part of the NLP and, now,
NHT funding process. CMCs can also tap these programs to support their regional
planning and implementation work.
The Natural Heritage Trust

Prior to the 1995 federal election, both major political parties committed to increased funding for Landcare, including large-scale works on private land where there were identifiable conservation outcomes. With proceeds from the partial sale of Telstra, the national communications carrier, the incoming Liberal Party government substantially increased funding for Landcare and other environmental programs through the 5-year, $1.25-billion NHT (Commonwealth of Australia 1998). The NHT has a much greater emphasis on on-ground works than the old NLP and assumes that "regional or catchment-level actions are an important approach to sustainable management" (Commonwealth of Australia 1998, 6). The majority of funds and programs are being delivered through RAPs.

Community Participation: An Overview

Demands for greater community participation reflect concerns about the legitimacy and efficacy of modern systems of representative government. Perceptions of community participation vary, largely in terms of the extent to which the community exercises decision-making power, with notions of participation ranging from the provision of information through to local control of decision making (Arnstein 1969). Public participation is believed to legitimize planning outcomes, reduce citizen alienation, avoid conflict, give meaning to legislation, build support for agency programs, tap local knowledge, provide feedback on program outcomes, contribute to community education, and enhance democratic processes by increasing government accountability (Creighton 1983; Daneke 1983; Lyden et al. 1990).

A number of authors have questioned assumptions that participation necessarily has positive outcomes. Increasing public involvement in decision making does not automatically resolve conflict. Indeed, effective public involvement requires decision-making processes that can accommodate conflict (Landre and Knuth 1993). Kweit and Kweit (1981, 37) highlighted problems that exist when community and agency perceptions of the purpose and benefits of public participation vary and explained that "frequently ... citizens expected to achieve a redistribution of power. Officials on the other hand were searching for increased citizen trust and acquiescence as well as for improvements in the resources and knowledge necessary to deliver satisfactory services to the citizens." Lyden et al. (1990) found that a large part of the public believed agency attempts at participation were tokenistic in that important decisions had already been taken. Grima (1983) identified problems with co-option of public participation processes by agencies. SandercocK (1986) claimed participation processes favor advantaged groups in the community and do not lead to more widespread community involvement in the political process. Midgley (1986) questioned the capacity of community participation to deliver improved well-being and suggested macro economic and social changes might be of greater importance.

Midgley (1986) expressed concern about the internal inconsistencies of community participation theory that required autonomous and spontaneous participation while at the same time advocating an important role for change agents. Uphoff (1991) referred to this as the paradox of participation, where "top-down" efforts were required to promote "bottom-up" development. Midgley (1986, 150) concluded his review of community participation with the assessment that "there is little evidence to show that state support and community initiative have been effectively combined to promote authentic participation."
Nevertheless, as Esman and Uphoff (1984) emphasized, opportunities for rural people to manage their own affairs, shape public decisions, and participate in activities that affect their economic productivity and quality of life are essential for accomplishing broad-based rural development. Successful rural development projects tend to be those that are flexible, provide for the active participation of beneficiaries, and are sensitive to local conditions and cultures (Kottak 1991; Uphoff 1991). Buller and Wright (1990) and Jones and Rolls (1982) argued that appropriate organizational forms were needed if rural development was to occur. Esman and Uphoff (1984) focused on the potential for community participation through local organizations to contribute to rural development. Roling (1988, 12) suggested the "systematic use of groups can effect major changes in the deep-seated attitudes of people and in the mobilisation of people for development."

Lessons From Landcare for State-Sponsored Participation

Landcare Groups as Effective Local Organizations

Chamala (1995) concluded that Landcare represented a vast improvement on previous approaches to rural development in Australia. There is considerable evidence that Landcare and Landcare-CMC links have established effective local organizations, have largely avoided co-option by government, and have overcome other perceived limitations of participatory processes. Past research suggests group processes provide opportunities to learn by doing and by interacting with peers, as well as enabling participants to discuss conflicting views and explore emerging issues with a range of stakeholders in a reasonable fashion (Chamala 1995; Millar and Curtis 1997; Curtis 1998). Participation in group activity has enhanced social cohesion, increased the capacity of rural communities to attract resources from governments, and enabled them to respond to change (Alexander 1995). Landcare participation has increased awareness of issues and enhanced landholder skills and knowledge (Curtis and De Lacy 1996b). Landcare has also contributed to increased adoption of best management practices (Curtis and De Lacy 1996a). There are many examples where group activity has accomplished on-ground work likely to reduce land and water degradation at the local or subcatchment scale (Campbell 1994; Commonwealth of Australia 1997; Curtis 1998). Landcare participants are represented on the regional CMC and other important fora and are making significant contributions to natural resource management decision making (Curtis et al. 1995). With Landcare groups, and the emerging Landcare group networks, there are now strong local organizations in most parts of rural Australia.

Linking Local Groups and Regional Bodies

Participation will be tokenistic and rural development retarded if participants do not contribute to decision making and do not have organizational support at the regional level. Regional CMCs appear to be the missing institutional mechanism linking and supporting the activities of Landcare and other local groups. These bodies can provide the important regional perspective necessary to manage what are increasingly regional issues, and satisfy legitimate demands for accountability of public moneys expended through Landcare and the NHT. CMCs coordinate, but do not control, the activities of the various independent community groups, and
enable community groups to influence broader policy development and "pull down" additional resources.

Notwithstanding these points, there are important concerns about Landcare-CMC links, particularly through the NHT. Limited stakeholder representation on CMCs and, therefore, the RAP process threatens the legitimacy of the NHT process and has constrained the capacity of the NLP/NHT to deliver on biodiversity conservation. In the state of Victoria, Liberal Party government control of the appointment of CMC members has excluded important stakeholders. For example, legislation establishing CMCs in Victoria prescribed a majority of farmers on each committee. The peak conservation body in Australia, the Australian Conservation Foundation, is not represented on any Victorian CMC. In northeast Victoria, despite the presence of the major rural cities of Wodonga (30,000 people) and Wangaratta (15,000 people), there is not one urban representative on the CMC in a region with a population of about 60,000 people.

Articulating Separate Roles for Community and Regional Organizations

Articulating and clearly communicating distinctive roles for Landcare and CMCs has been a vital element in developing a practical model for state-sponsored community participation in Australia. Experience suggests the most important roles for participants in regional organizations are to aggregate and express regional needs; establish priorities for allocation of government resources; provide accountability for expenditure of public funds; and link and support independent local groups. The most important roles for participants in local groups are to mobilize participation; initiate and support learning; pull down resources to support local efforts; and undertake on-ground work to the extent that resources are available. Individual land managers can be expected to: participate in group activities; establish community priorities; and undertake work on their properties or those of others as time permits. Individual landholders should not be expected to take leading roles in administering government-funded projects. In an era of two-income families and considerable off-farm work, it is unreasonable to expect landholders in developed economies to work on their own and other properties, including public land, as well as undertake coordination of projects. They simply do not have the time.

Landcare Participation and Adaptive Management

Australian governments have embraced adaptive management (Dovers and Mobbs 1997). This approach treats natural resource management as an iterative process of review and revision, requires willingness to learn through experience, and may require sacrificing present or short-term gains for longer term objectives (Briassoulis 1989). Effective stakeholder participation in the adaptive approach requires ongoing and extensive commitment and places considerable demands on all stakeholders (Dovers and Mobbs 1997). Involvement in Landcare builds knowledge and understanding that increase participant competency and strengthens commitment to adaptive management processes, as well as providing appropriate institutional structures for ongoing community representation. This can help ensure that information and understanding from adaptive management processes are communicated and retained within local communities and provide participants with a base so that they engage in planning processes as effective partners.
Establishing Robust, Productive Agency–Community Partnerships

Landcare offers a powerful example of how to establish effective local organizations. Landcare groups work with a range of partners, but much of the success of Landcare can be attributed to the energies and commitment of agency staff and the supportive cultures they built in the lead agencies in each state. Agency staff worked with community leaders to establish Landcare and continue to play important roles in the development and work of many groups (Curtis and De Lacy 1995; Curtis 1998). Most Landcare groups have a nominated agency contact and maintain regular contact with that person (Curtis 1998). Most groups appear to receive government funding, and there is a positive relationship between the level of group activity and both the extent of agency contact and the level of government funding (Curtis and De Lacy 1995; Curtis 1998). Agency staff have also been important in providing statewide coordination of groups and intergroup communications, including the organization of newsletters and state and national conferences. Surveys across a number of Australian states (Curtis and De Lacy 1996b; Curtis 1998) suggest that overall, groups and agency staff have established effective working relationships based on trust and a shared sense of purpose and that the lead agencies have a firm commitment to developing effective partnerships with groups. For example, large majorities of groups in each state reported that agency contact staff showed respect for the skills and knowledge of most members (Curtis and De Lacy 1996b; Curtis 1998).

Despite this apparent success, there are concerns about agencies co-opting Landcare and about the effective management of Landcare as a volunteer organization. Government may have greater influence over group activities than the rhetoric of Landcare suggests, through the allocation of funds to groups and projects that address government priorities (Lockie 1992). Intergroup communication is improving, but groups rely upon agency staff for much of their information. There is also evidence that state agencies have captured a large part of the Landcare resources provided by the Commonwealth (Alexander 1995; Curtis 1998).

A number of authors have highlighted important Landcare group management issues, including inadequate leadership and management skills training; low turnover and gender stereotyping of leadership positions; limited intergroup communications; poor communications between groups and agency decision makers; and inequity in funding allocation between groups (Alexander 1995; Curtis 1998). The finding that about one quarter of Victorian groups were operating at very low levels of activity in 1995 suggested these issues were having an impact on groups (Curtis 1998). Effective management of volunteer organizations, such as Landcare, requires considerable expertise and commitment of resources (Brudney 1990). Community Landcare at both commonwealth and state levels has been run with small budgets and limited numbers of personnel; has few senior staff directly involved in program management; and has a limited number of staff with specific knowledge of volunteer management.

Problems of poor Landcare program management are being exacerbated by inadequacies in NHT processes. Community groups complain that NHT application forms are too complex and that they receive little feedback on unsuccessful applications. These problems reflect poor communication processes within NHT, particularly with respect to funding guidelines, assessment processes, and decision-making criteria. A contributing factor is the emphasis within NHT on the administrative tasks of project planning and assessment. The scale of this problem is best
illustrated by the long delays in notifying community groups of the outcomes of the 1997/1998 NHT round: up to 9 months for some programs. The Australian National Audit Office (ANAO 1997) indicated there was no need for separate regional, state, and commonwealth assessments of projects. Each CMC should be given an NHT budget allocation to manage and accomplish outcomes identified in their regional catchment plan. It may take some time for state and commonwealth agencies to provide this level of autonomy to regional communities. In the interim, state and commonwealth assessments should occur simultaneously.

**Cost Sharing for Public Investment in Work on Private Property**

From the outset, Landcare involved cost sharing between government and community groups (Curtis 1998). Community groups were generally able to attract funds on the basis of a $2 government contribution for each community dollar invested. Community contributions could be of an "in-kind" nature, that is, in labor and materials. A substantial part of NHT funds will support large projects where there is likely to be considerable benefits for private landowners. The commonwealth has argued that the NHT is not an industry subsidy by highlighting the extent of anticipated public benefits, particularly in terms of biodiversity conservation.

Efforts to develop comprehensive cost-sharing guidelines for the NHT have stalled. Campbell (1997, 144), now Assistant Secretary in Environment Australia, the commonwealth agency responsible for important elements of the NHT, highlighted this issue when he stated: "We need better ways of identifying and evaluating the public good to justify investment of public funds on individual properties, and to work out equitable cost-sharing arrangements." Responding to similar community concerns, the Murray-Darling Basin Commission (MDBC), the intergovernment agency responsible for natural resource management in the Murray-Darling Basin, initiated a review that recommended cost-sharing principles and guidelines (MDBC 1996; James 1997). The MDBC principles and guidelines sought to internalize external costs, applying both the polluter pays and the beneficiary pays principles, and specified the role of public funding where broader community benefits were involved. Despite strong support from the Murray-Darling Basin Community Advisory Committee, the MDBC cost-sharing report has made little headway through the Commonwealth's natural resource management bureaucracy.

In the absence of rigorous, transparent cost-sharing guidelines, there is considerable risk that public benefits flowing from NHT expenditure will not be maximized and that the NHT process will become politicized. A related problem is the absence of a scientific method supporting the allocation of resources to regions and projects. Government has invested increased sums of public money in natural resource management through NHT on the basis that regional catchment plans are of sufficient quality to ensure investment returns that would satisfy the Department of Treasury (Commonwealth of Australia 1998). This is a very risky strategy. Although there are numerous plans, there are few that are based on formal assessment of how limited resources should be allocated across issues and between regions. Although some agencies, including the MDBC, are using tools such as multicriteria analysis to guide decision making, most agencies and CMCs determine funding priorities through formalized committee processes. It is very difficult for an outsider to uncover the rationale behind these decisions, and there is no guarantee that expen-
ditute will be justified in terms of expected public benefits. In particular, there has been little use of economic benefit-cost analyses.

There are concerns that current approaches to funding allocation have resulted in wasted opportunities (ANAO 1997). Some regional communities have accessed large proportions of NLP/NHT funds in some states. For example, in Victoria in 1997/1998 the Goulburn/Broken region accessed $6.4 million of the $10.5 million (60.7%) funds allocated for the Murray-Darling 2001 program. This region received 34% of the total NHT funds allocated to Victoria’s nine CMCs (Department of Natural Resources and Environment 1997). This funding was largely based on historical precedent, and in part reflected the spurious justification that work in the Goulburn Valley would be used as a model for other areas—spurious because there simply were not resources available to fund work elsewhere.

In part these problems have arisen because issue-based economic valuation data have generally not been available across whole catchments. The Land and Water Resources Research and Development Corporation, a commonwealth agency, is attempting to fill this information gap. It remains to be seen if this information will be used.

Integrated Policy Packages

The Landcare experience suggests that participation in local organizations can raise landholder awareness of issues, enhance landholder skills and knowledge, increase adoption of best practice, and establish the “social capital” required to “pull down” resources to support rural development. Notwithstanding these successes, given the scale of existing problems and the financial constraints facing many land managers, it is unreasonable to expect a relatively small-budget, voluntary program to deliver significant improvements at the landscape scale. Effecting change is a complex task, and it is unlikely that one instrument will address the underlying reasons for non-adoption of improved management practices (Vanclay 1997). The challenge, then, is to develop integrated packages, which may include legislation or regulations to create the institutional framework for management, set aside areas of land, and enforce standards and prohibitions; self regulation; research to clarify problems, develop solutions, and monitor environmental conditions; education to convince people of the need to change behavior, gain support for policy instruments, and ensure the ability to apply instruments; and economic measures such as charges, subsidies, penalties, and tradable permits to assist efficient allocation of resources and equitable distribution of costs and benefits (Dovers 1995; Young et al. 1996).

Conclusion

The Australian experience with Landcare and CMCs suggests that community participation has the potential to effectively combine state support and community initiative. Landcare has delivered on important program objectives. Landcare has mobilized a large cross section of the rural population. Landcare participation has increased awareness of issues, enhanced landholder skills and knowledge, and contributed to increased adoption of best management practices. There are examples where groups have accomplished on-ground work likely to reduce land and water degradation at the local or subcatchment scale. With effective local and regional organizations emerging, there is evidence that many of the perceived limitations of public participation can be overcome. Group processes have enabled participants to
discuss conflicting views and develop management plans in a reasonable fashion. This "social capital" has improved social cohesion. Group activity has enhanced the capacity of rural communities to pull down resources from the government and adjust to structural change. With strong agency commitment to participatory processes, agency staff and Landcare participants have established robust, productive partnerships and avoided many of the perils of co-option. Regional CMCs appear to have provided the missing institutional mechanism linking and supporting the activities of local groups. Landcare participants are represented on CMCs and other important fora and are making important contributions to natural resource management decision making. It also seems likely that Landcare groups and networks will address some of the difficulties of achieving effective stakeholder participation within the adaptive approach to resource management.

Despite impressive achievements, there have been concerns about program logic and implementation for both the NLP/NHT and CMC arrangements. For those exploring the potential of state-sponsored participation, the most germane appear to be the risks of making large public investments through regional catchment strategies where the knowledge base and decision support tools are unable to identify priorities across issues and between catchments; ongoing concerns about co-option, including those arising from limited stakeholder representation on catchment bodies and the impact of different regional and state contexts; the importance of adequately resourcing and professionally managing volunteer programs, which includes thorough project and program evaluation; and the potential political costs and loss of community confidence of not establishing rigorous and transparent cost-sharing arrangements.

An important next step in Australia is the devolution of greater power to regional communities. This process should be accompanied by the election of representatives to CMCs. Commonwealth and state funds for natural resource management, including some of those outside the NHT, should be allocated on a triennial basis to regional CMCs. Use of decision support tools such as extended benefit-cost analysis would help ensure wider representation of stakeholders' values and enhance the ability of CMCs and agencies to justify their resource allocation decisions. Regional strategies should be supported by these decision support tools and ratified at the state level, say, every 3 years. Elected regional CMCs, representing major stakeholders, would then allocate funds to regional projects on the basis of national priorities and their regional catchment strategy. CMCs would have real power, but they would also be accountable to their regional communities and to commonwealth and state governments.

The Australian experience suggests that important elements of successful state-sponsored community participation include:

1. Articulating and communicating separate roles for community groups and regional planning bodies.
2. Linking local community groups and regional planning bodies using CMCs in ways that empower and resource local communities, facilitate effective regional planning, ensure accountability to national stakeholders, and support adaptive management approaches.
3. Developing rigorous and transparent cost sharing principles that can be used to allocate public money for work on private land where there are community benefits.
4. Development of an agency culture that supports community participation.
5. Creating robust, healthy community-agency partnerships.
6. Acknowledging the importance of professional management of volunteer programs.
7. Identifying flexible policy packages to accommodate the diversity of landholders' circumstances and motivations, including incentives for landholders to maintain the supply of public benefits, particularly for biodiversity conservation.

Note
1. All dollars quoted in this paper are Australian dollars.

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