Key ingredients for the successful implementation of riparian rehabilitation programs

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Abstract

During the last eight years, in a climate of major water policy change in Australia, Greening Australia (GA) has undertaken a number of large-scale river rehabilitation projects across the country. GA has also been involved in the implementation of several projects run by other agencies and organizations across different catchment areas in the ACT and south-eastern New South Wales. An analysis of the different project implementation styles has led to the identification of some key ingredients that make a project or program successful in terms of i) on ground works and the implementation of priorities; and ii) community engagement and capacity building (with ongoing stewardship). A review is provided for each of the following programs: Rivercare, Bidgee Banks, Envirofund River Rehabilitation Projects, Murrumbidgee River Restoration Project, ACT River Rescue and National River Recovery. Common factors required for the successful implementation of river rehabilitation policy and related programs are summarised.

Keywords

On-ground implementation, community engagement, key success factors, devolved grants

Introduction

Water policy in Australia has changed significantly over the last twelve years in response to concern about the declining health of Australia's river systems (DEH, 2006). Two major programs - the National Action Plan for Water Quality and Salinity (NAP) and the Natural Heritage Trust (NHT) and several sub programs - have been implemented by Federal and State Governments in partnership with other organisations. The main aims have been to address a decline in water quality, riparian health and biodiversity. Although these projects and programs are closely related in terms of their aims and on ground works, the style of project implementation has varied significantly.

Greening Australia (GA), a non government, not for profit organisation, has implemented many of these programs, and has had the opportunity to analyse various implementation styles. From this, key factors that contribute to a project's success in relation to 1) on ground works and implementation of catchment priorities; and 2) community engagement and capacity building have been developed.

The aim of this paper is to provide an overview of some of the programs (oldest to newest) and review common factors that were found to contribute to their successful implementation.

Selection of criteria for measuring success

A number of criteria were identified that relate to the successful implementation of projects outlined in this paper. While projects achieved similar on ground results on a *site by site* basis (by having similar tools and criteria for rehabilitation works), project *outcomes* at a catchment scale sometimes differ depending on whether the area of investment was a 'target' area for the particular aim of the project.

Fourteen criteria were selected and are listed in Table 1. The bulk of these were based on social surveys undertaken as part of the monitoring and evaluation of the Bidgee Banks project (Canberra University, 2004 and Charles Sturt University, 2004); factors identified through review of Envirofund and Rivercare programs (Hassall and Associates, 2005, PPK Environ & Infrastructure Ltd, 1999); and through a survey of people involved with GA since 1982 (Andrew Gavel Pty Ltd, 2003). Criteria relating to the value of incentives, face to face technical advice and local project officers are also supported by research relating to the adoption of sound riparian management practices (Curtis *et al.*, 2001, Nicolson *et al.*, 2004, Wilson *et al.*, 2004).

Project Reviews

Rivercare (1996 – 2002)
The National Rivercare Program was part of NHT Phase 1, and operated between 1996 and 2002. It funded $73.6 million in river rehabilitation works and was a nationally run program implemented by state governments. 21,084 km of waterways were rehabilitated or protected around Australia (Hassall and Associates 2005). A major benefit found in the review of Rivercare was that it increased understanding of the need to protect waterways, led to the development of action groups, and increased demand for technical information. Rivercare also had a high rate of co-investment, with more than half of all investment contributed by the community (Hassall and Associates, 2005).

Criticisms of Rivercare (and more broadly NHT) included the minimal targeting of funding, lengthy administration processes and short term funding, coupled with considerable lag time before funds were available (Hassall and Associates, 2005). There was no follow up funding for monitoring, maintenance, or support for projects which failed due to drought and natural disasters.

GA's experience with Rivercare was in the form of smaller on ground works projects in partnership with Landcare groups. One of note was a project undertaken by the Gundaroo Landcare Group where a River Management Plan was developed for a section of the Yass River at Gundaroo, NSW. Associated erosion control, fencing and revegetation works were carried out. Sutton Landcare Group, a neighbouring Landcare group, applied to Rivercare to undertake a similar project linked to the Gundaroo project, but had their application rejected. One was deemed worthy, the other unworthy in spite of the similarities and linkages. The second of the two projects was applied for in a different round, in competition with other projects, highlighting the difficulties with off-site assessments. The application process for these two projects was arduous and repetitive, and was undertaken by community volunteers (supported by Rivercare officers). This experience was further supported by the NHT Phase 1 Final Evaluation (Hassall and Associates, 2005; PPK Environ & Infrastructure Ltd, 1999). It could take up to 18 months between the formulation of an idea and implementation of a project, during which time community motivation can wane.

'Bidgee Banks (2000 – 2003)
Bidgee Banks was a large scale devolved grant project funded largely through NHT. In 2½ years 262 land managers were involved in the rehabilitation of 263 km of river and 1336 ha of riparian zone (BBSC, 2003). The project addressed deteriorating water quality and vegetation loss in the Murrumbidgee Catchment by engaging the community in on-ground river management. 'Bidgee Banks was recognised for its achievements by winning a National Banksia Award and a United Nations of Australia award.

The Bidgee Banks project was a $1.5 million NHT-funded community government partnership between GA, the NSW Department of Land & Water Conservation (DLWC) and land managers. It was managed by GA and guided by a steering committee with representatives from DLWC, GA and community. DLWC also provided funding and technical advice. There was a mix of actively targeted sites and a process for responding to community interest (Starr, 2000). Site visits and assessments were carried out by two project officers who determined funding and site priorities within a documented process. Information was stored on a database and mapped on GIS.

Through analysis by the Bidgee Banks steering committee (BBSC 2003), monitoring and evaluation by two universities (Canberra University, 2004 & Charles Sturt University, 2004) and comments from applicants, a number of positives and negatives were identified. The main strengths of Bidgee Banks were the low administrative burden, rapid turn-around of funding (often less than 3 weeks); the site-specific nature of the project; the use of best management practice; the combination of targeted works and non targeted works; high accountability and transparency; high returns on investment ($3 return for every $1 invested); a strong community-government partnership; and a large project scale. Identified weaknesses included the lack of scientific information to prioritise sites over a large area; fixed incentives for target sites i.e. nothing extra to offer an uninterested person in a high priority area; the insecurity and short term nature of funding as a barrier to long term planning; and rigid time frames.

Bidgee Banks was seen to be a successful project, its main limitation being that the investment funds were not sufficient to match the scale. Projects such as these, concentrated in smaller targeted geographic areas,

have the potential to achieve significant on-ground outcomes. This has been demonstrated in the Goulburn-Broken Catchment (Victoria) where a concerted and targeted effort has resulted in an improvement in water quality (GBCMA, 2005 cited by Hassall & Associates, 2005).

Envirofund River Rehabilitation Projects (2003)
Envirofund is a nationally operated small grants process which enables worthwhile local projects to receive funding even when outside target areas. GA coordinated two small (~$30,000) river rehabilitation projects on behalf of ten landholders (5 in each project).Unlike devolved grants projects, there was a need to spend considerable time planning precise on-ground works requirements e.g. kilometres of fencing, number and type of trees and so on. All landholders were required to sign fencing agreements before funds were released. Even small project variations had to be formally approved. This contrasts with devolved grants where strategic planning is carried out early on and site details are not known until the project is implemented.

Administration was high for (relatively) low amounts of funding (with regard to the application and final reporting requirements). This continues to be the case and in some instances the cost of paper work can exceed the grant (CIE, 2005). However as with any nationally run program, this is difficult to avoid when assessment is being undertaken at arms length. To alleviate this problem, GA applied on behalf of the ten landholders and coordinated their projects at very low cost. This ensured that only two applications were submitted to Envirofund instead of between five and ten. Landholders outside the Landcare network were able to receive support (which is ongoing after the project life). Incentives almost covered project materials, with applicants providing the labour component.

Another limitation with these projects was the ongoing drought, conflicting with the requirement to revegetate to meet tight project deadlines. This issue was also highlighted in an evaluation of Envirofund (CIE, 2005) and 18 months has since been allowed to complete projects. Several other changes have also been made to Envirofund in response to this review.

Murrumbidgee River Restoration Project (2005 – 2006)
The Murrumbidgee River Project was a tender process put forward by the Murrumbidgee Catchment Management Authority (MCMA), won by EarthTech who subcontracted GA to assist with on-site negotiations. EarthTech reported to the MCMA, and GA reported to EarthTech. MCMA ultimately signed off project agreements. About 130 applicants were involved with the project undertaking erosion control, fencing, revegetation, willow control and installation of alternative stock water.

Face to face negotiations were carried out on site by both EarthTech and GA staff, and the administrative burden on the applicants was minimal. Each agreement was sent to EarthTech for checking and allocation of funds, then it went to the landholder who filled in an acceptance of offer and sent it back. Once signed the agreement went back to EarthTech who would then send it on to the MCMA for final sign off. The time frame between site inspection and funding was often around three months due to the cumbersome process. This time frame was longer if specialised engineering designs or other works were required.

Administrative down time was reflected in the figures from March 2006, where only 29 out of 127 applicants had received funding (EarthTech, 2006). This process did not sit well with the one year time frame as participants received 50% of the funding up front and 50% upon completion, requiring a follow up visit prior to the finalisation of the EarthTech –GA – MCMA contract period. There was also little flexibility when it came to project alterations as it would have to go back through the administrative process. After a mid project review, the administration process was simplified (and improved greatly) by creating a threshold for funding below which the project officers could allocate. This enabled project officers to draw up agreements and send them straight to landholders for signing before being sent up the line.

One of the positive aspects of the Murrumbidgee RRP was the partnership between a CMA, an engineering company and a non-profit organisation specialising in revegetation, as skills matched the two main aims of the project. Another positive aspect was the solid foundation for prioritisation of works. Charles Sturt University and CSIRO combined two riparian assessment models – RARC dealing with vegetation assessment, and SEDNET that models sediment budgets – and produced a sound basis for prioritisation that was workable in the field (pers. obs. 2005).

It should be noted that this was a new project model undertaken by a new CMA, where funding was ultimately spent, and projects were undertaken. It is a useful experience when looking at project implementation styles as the partnership at face value appears beneficial. It requires very clearly defined roles, and a level of trust so that an inefficient bureaucratic process is kept to a minimum. The project has since taken on new life and run as an in-house MCMA river rehabilitation project.

ACT River Rescue (2005 – 2007)
ACT River Rescue improves riparian habitat along priority streams in the ACT to address biodiversity and water quality decline. Works include fencing, erosion control, alternative stock water, weed control, willow control and revegetation. River Rescue is part of a broader multi-million dollar program called ACT LandKeepers which is a partnership program between Environment ACT and GA. It is jointly funded by the ACT and Australian Governments to engage the community in environmental management. River Rescue comprises $954,000 of the LandKeepers budget.

ACT River Rescue operates as a devolved grant program (similar to Bidgee Banks) implemented by GA who report back to project partners via a steering committee and agreed reporting protocols. Administrative procedures and funding are managed by GA, and project assessment and funding turnaround times are rapid. A key success factor of this project is the strong relationship between GA and the ACT Government, where GA is trusted to assess and fund projects without the need for government approval of each site. As part of the planning phase for ACT LandKeepers, priority sites were identified and processes agreed upon before on-ground works commenced. Currently 51 applicants have been funded to protect and rehabilitate 18 km of stream (pers. comm. Calliess, 2007). This flexible yet accountable system is ideal for a small area such as the ACT, and the available incentives reflect the priority of the ACT. The administrative costs of this type of model (government – community partnership) are very low, with minimal bureaucracy. Works are carried out quickly while enthusiasm is high, and officers provide ongoing support. The process is accountable and transparent, and there is a commitment to providing Government partners with continual updates and involvement in project activities where appropriate (e.g. planting days, publications etc).

National River Recovery (2004 – 2007)
River Recovery is a national program that is regional in its approach and features two major components: 1) Involvement of partners in identifying, testing and delivering a suite of river management tools, planning and training products; and 2) Securing the interest, support and networks of Australian businesses, research organisations and individuals. In its first phase River Recovery focussed on the protection and rehabilitation of priority river reaches in nine major river systems across Australia – the Yarra (VIC), Derwent (TAS), Boorowa (NSW), Lower Murray (SA), Burdekin (QLD), Hutt (WA) Coliban & Campaspe (VIC), Katherine (NT), and the Hawkesbury Nepean (NSW). Major partners are Australian Government and ALCOA, along with The Nature Conservancy, Macquarie Bank Foundation, and ANZ. At the regional level there are numerous partners including Catchment Management Authorities, local businesses and the community. To date Greening Australia has secured over $12 million dollars (including $2.9 million seed funding) (pers. comm. Sampson, 2007).

Boorowa River Recovery (BRR) provides an example of one River Recovery project. Boorowa is located northeast of Yass NSW. The upper Boorowa River and tributaries were selected due to the high level of sediment and salt contributed to the Lachlan River (one of the major rivers of the Murray Darling Basin).

Initial River Recovery funding (from NHT) of $50,000 was increased by project partners GA ($50,000), Lachlan Catchment Management Authority (LCMA) ($600,000), TransGrid ($25,000) and further NHT funding ($50,000). Additional funding was also obtained for fish habitat rehabilitation from Dept Agriculture Fisheries and Forestry ($97,500) and Community Water Grants ($50,000) taking the project to almost $1 million. Landholders also contribute to about 30% of on-ground works. Other major partners include the Boorowa Regional Catchment Committee and the Boorowa Council. GA coordinate the BRR project with on-ground works funding administered by the LCMA.

BRR offers great incentives for worthwhile projects and funds fencing, revegetation, willow control, erosion control and stock water. Currently there are 30 projects being undertaken along 31 km of river and the project continues to generate interest. This project offers the best incentives of all the river projects GA has been involved with. The cost per kilometre of stream is greater than with set incentives but projects are larger

and more targeted. This encourages landholders who would otherwise not become involved, especially when drought affected. There is, however, a requirement for landholders to contribute something (e.g. labour) so that there is a sense of ownership. It has been the experience of GA that there *tends* to be a better rate of follow up care and maintenance where applicants have undertaken or been heavily involved in the works themselves (pers. comm. Wilson 2007). Individual project cost is calculated based on quotes from suppliers, and a cost share between the project and the landholder is determined by an Environmental Services Ratio (ESR) which takes into account catchment objectives, linkages, project size, and planning. Other features of the program include minimal paperwork for applicants, face to face negotiation, and a reasonable timeframe.

This implementation model is used for most LCMA projects. While it is still being developed (as the CMA's in NSW are relatively new), it is delivering results on-ground in an accountable framework. One of the highlights of the BRR project (distinct from other LCMA projects) is that it has its own steering committee made up of government, community and business representatives. This implementation process depends on staff with good negotiation skills and well developed computer skills, as the paperwork component (for the officer not the landholder) is extremely high. Similarly the potential for errors is high, although managed by having all agreements pre-checked. Related to this is a long time frame between project development and funding. Given that this process is so new, it has not been subject to large scale review, although processes are adapted in response to continual feedback. At face value it would appear to be a very successful model that is likely to become more streamlined over time in an adaptive framework.

Summary of Findings

Key factors for successful project implementation are summarised in Table 1. Grey shaded areas show the positive elements for each project.

Table 1. Summary of key components contributing to the success of riparian rehabilitation projects involving GA Capital Region

	River-care	Bidgee Banks	Enviro-fund	MRRP	ACT River Rescue	BRR
Strategic targeting and prioritisation of sites	No	No	No	Yes	Yes	Yes
Incentive level (compared with actual costs)	Low	Low	Mod	Low	Mod	V High
Face to face on site assessments	No	Yes	No	Yes	Yes	Yes
Low administration requirements for applicants	No	Yes	No	Yes	Yes	Yes
Incentive type	Fixed	Fixed	Fixed	Scaled & fixed	Fixed	Flexible
Short turn around time for funding	No	Yes	No	No	Yes	No
Flexible arrangements	No	Yes	No	No	Yes	Yes
Quick, easy project amendments (seasonal)	No	Yes	No	No	Yes	Yes
Effective government-community partnerships	No	Yes	No	No	Yes	Yes
High return on investment (cost share)	Yes	Yes	Yes	Yes	Yes	Yes*
Transparent and accountable processes	Yes	Yes	Yes	Yes	Yes	Yes
Good opportunities for co-investment	No	No	No	No	No	Yes
Long term project funding (>3 yrs)	No	No	No	No	Yes	Yes
Long term security of funding and staff (>2yrs)	No	No	No	No	No	No

*Mostly from project partners compared with others that have high contribution from project participants.

Discussion and Conclusion

These key ingredients have been identified as those that enable efficient implementation of projects and together form the basis by which a project could be planned. There has been a loose attempt to rank them in order of importance, although this largely depends on project aims. For example, prioritisation of works is an important criteria for many projects, as investment in the right location can result in greater outcomes (Wilkinson *et al.*, 2004). However if the aim of a project is primarily capacity building, prioritisation may not be as important as face to face assessments and low administrative requirements. In general, the more of these factors that can be incorporated into project planning, the greater the likelihood of project success. Longer term project funding and greater security of funding enables project momentum to build in order to better address long term goals, although these are not necessarily as important as some of the other criteria listed. Again, it depends on the project aims and who is carrying out the projects. Implementation of projects by another body such as state or federal agencies may place a different weighting on project criteria or may

have different criteria altogether. For example, strict accountability may take precedence over short funding turn around time as has been the case with Boorowa River Recovery, Envirofund and Rivercare.

Devolved grants with strong partner relationships (e.g. Boorowa River Recovery, Bidgee Banks and ACT River Rescue) have worked particularly well in terms of *efficient* on ground action and community engagement. Devolved grant style projects in general tend to contain more of the elements required to efficiently deliver on-ground outcomes at a larger scale providing there is sufficient planning to adequately prioritise works. Systems also need to be put in place to reduce subjectivity of project assessments, especially where there are a number of officers assessing projects. There is also a place for programs such as Envirofund where important local works can be undertaken even if they fall outside priority areas, in spite of a more cumbersome administrative process. A full cost – benefit comparison of projects in relation to investment in on ground works, time scales and achievement of regional priorities would be useful in this context although it would require very well designed methodology to account for differences in project aims, scales and completion times. In general however, a project that can work towards meeting catchment priorities via a user friendly, personal and accountable process with appropriate incentives is likely to be met with success in terms of on ground outcomes.

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