

# Transforming planning and practice for regional natural resource management: lessons from SIF3 in north central Victoria

Geoff Park<sup>1</sup>, Jennifer K Alexander<sup>2,3</sup>, Anna M Ridley<sup>2,3</sup>, David J Pannell<sup>3,4</sup>

<sup>1</sup>North Central Catchment Management Authority, Victoria

<sup>2</sup>Department of Primary Industries, Victoria

<sup>3</sup>Future Farm Industries CRC

<sup>4</sup>University of Western Australia

## Introduction

Salinity planning in Northern Victoria dates back to the development of community-based plans during the 1980s. The advent of Catchment Management Authorities (CMAs), development of Regional Catchment Strategies and significantly increased investment (through the National Action Plan for Salinity and Water Quality) has led to a need for better planning and greater accountability in the expenditure of public funds.

In the late 1990s the Second Generation Dryland Salinity Plan (NCCMA, 2002) was developed for the North Central Catchment Management Authority (NCCMA) region, at the same time as the renewal of the Regional Catchment Strategy (NCCMA, 2003). A key outcome of the plan was the identification of ten target areas, sub-catchments where salinity control work was directed until 2006. High priority sub-catchments were first identified with a Geographical Information System-based decision support tool that considered saline discharge, salt load export, groundwater risk, recharge risk and run-off risk (Park and Alexander, 2005). This led to the establishment of the so-called “targeted approach”, where the main activities in the priority sub-catchments were a combination of extension activities and financial incentives aimed at increasing the cover of perennial vegetation.

Concern emerged among key stakeholder groups in the North Central CMA region about significant shortcomings in planning, implementation and evaluation of the “targeted” salinity program. The concerns encompassed issues including:

- that key regional assets were not being protected
- inadequate incorporation of local knowledge in salinity plans generally
- an over reliance on extension and grant/incentive programs as the key mechanisms for both engaging the community and promoting landscape change
- realisation that suitable farming-system solutions were not broadly available
- modelling techniques that depend on external experts for application and interpretation
- lack of peer review of the science used to underpin salinity planning.

Advances in the science of dryland salinity in recent years have led to the realisation that achievement of salinity outcomes was much harder than previously thought (Ridley and Pannell, 2005). After six years of investment the ability of the “targeted approach” to provide the required outcomes was being questioned and the need for a more transparent decision making approach was apparent. The Board of the North Central CMA decided in late 2005 to explore the application of the Salinity Investment Framework (SIF3) as a means of improving salinity investment. Analysis of the implementation of SIF3 is reported in a companion paper (Ridley et al., 2008).

This paper aims to explore the impact of SIF3 in the NCCMA region in relation to the perceived strengths and weaknesses of the SIF3 framework, the level of stakeholder engagement and changes to date in attitudes and behaviour of stakeholders.

A key test of the value and utility of SIF3 is the extent to which it will leave an enduring legacy. This paper provides an initial evaluation of the impact of SIF3 in the region and draws on data from a range of sources including interviews with stakeholders and analysis of planning and investment documents relating to salinity. We acknowledge that there are a range of areas that will require ongoing attention if SIF3 is to have an enduring impact.

## Methods

Twenty three key stakeholders involved in the implementation of SIF3 in the NCCMA were identified from the following groups: 1) 2 CMA Board members; 2) 4 CMA implementation committee members; 3) 2 CMA staff; 4) 5 extension staff from the Department of Primary Industries (DPI); 5) 3 researchers from the Department of Primary Industries (DPI); 6) 2 policy advisors from the Department of Sustainability and Environment (DSE) and, 7) 5 members of the SIF 3 team.

Two of the authors (Park and Alexander) conducted face-to-face, structured interviews with these stakeholders. Interviews were conducted over a period from August to December 2007 and each typically lasted for thirty to sixty minutes. Questions centred on 1) Familiarity with SIF3; 2) Strengths and weaknesses; 3) Level of stakeholder engagement; 4) Changes in behaviour in NRM decision making. The results were transcribed and then analysed as the primary source of data for this paper. Within each group we endeavoured to interview a sufficient number of people to get meaningful results and to cover a diversity of views.

## Results and discussion

Of the 18 interviewees [SIF3 team members excluded] 6 (33%) were familiar with the SIF3 framework and had a good understanding of its technicalities, 10 (56%) indicated that they had heard of it and could probably explain it to a colleague, at a general level, while the remaining 2 (11%) indicated that they had heard of it and knew something about it.

### *Strengths and weaknesses*

All stakeholder groups identified numerous strengths of the SIF3 framework as compared to the previous approach to salinity investment. In particular the use of an asset-based approach, consideration of a broader range of intervention options than previously and the opportunity to incorporate local knowledge were commonly expressed. CMA Board members and policy advisors were strong advocates for SIF3 identifying the transparent, logical, science-based approach to identifying intervention options as a key strength.

*“It’s a scientific approach, it’s logical and it’s easily understood whereas the previous approach was about who was making the most noise and whatever the flavour of the month was”.*

**CMA Board member**

The underpinning public: private benefits framework (Pannell, 2008) was seen as a very important component of SIF3 although some respondents were clearly still coming to terms with the implications of its application, indicating that there was still some discomfort with the approach and perhaps a lack of understanding of the underlying principles.

Implementation Committee members were somewhat divided in their views on the strengths of the SIF3 approach with one respondent suggesting that the targeted approach would have been successful over time [fifteen years] while another noted that the previous approach had created division in their community group as some members were eligible for incentives while others who managed land outside priority areas were ineligible. Extension staff noted that SIF3 had a clear scientific basis and provides a simple structured framework. They also suggested that it gave local people an opportunity to have input to the prioritisation of assets. Interestingly some of the same respondents felt that a weakness of SIF3 was that it was a “black box” and appeared very complex. Some of this inconsistency appears to reflect a superficial knowledge of the framework. It appears that few stakeholders have read any of the documentation, either detailed or summary. Researchers also noted

a number of key strengths including the ability of the framework to target investment at highly threatened assets, and that it provided a transparent and easy-to-understand process with a clear rationale.

*“SIF3 pulls together knowledge of salinity processes and actions and puts an economic layer over it. It forced people with the technical knowledge to communicate it”.*

**Research scientist, DPI**

Across all stakeholder groups, strengths were clearly seen to outweigh weaknesses with most groups indicating that SIF3 was a major advance on previous approaches.

### ***Level of stakeholder engagement***

Stakeholder engagement included a diversity of activities in the region from mid 2005 until the present. It has included field trips, briefings to the CMA Board, staff and Implementation Committees, DPI extension staff and researchers, Local Government and DSE policy advisors and a series of workshops for information gathering and discussion of recommendations. This has been augmented by ongoing discussions with individuals from the aforementioned groups, landholders and consultants. A three-day field visit to sites across the region in December 2005 was mentioned by a number of those interviewed, including CMA Board members, Implementation Committee members and researchers. The field trip was seen as a pivotal event that enabled trust to develop between the research team and regional players. According to participants it showed that the researchers were keen to understand environmental, social and economic perspectives on the landscape.

Amongst Implementation Committee members there was general agreement that stakeholder engagement was conducted well with broad representation (agency and community), relevant information provided in a timely manner and that different views were heard and respected. One respondent noted that the process provided an opportunity for healthy debate that hadn't occurred previously. There was significant involvement of the SIF3 research team that was sustained over the life of the project. Responses indicated satisfaction with the opportunity for input.

*“They did a good job engaging with various groups across the two workshops, the tour of the catchment (this was particularly good). All the people who could contribute had a chance to say what they felt.”*

**Research scientist, DPI**

Observing from outside the region, DSE policy advisors identified no real deficiencies in the process

*“Stakeholder engagement was a major strength – it stood out as an engaging and partnership approach”*

**DSE Policy Advisor**

Amongst extension staff there was a view that there could have been better incorporation of local knowledge and some technical information. Some staff felt that engagement was very good but others felt they had limited opportunity for involvement or to comment on recommendations. Some staff felt they were “kept at arms length” from the process. Members of the SIF3 team interviewed suggested that they took a strategic and targeted approach to stakeholder engagement and recognised that not all groups/individuals were totally engaged. They felt that given the nature of the project recommendations and sensitivities from organisations directly impacted (for example recommendations indicated a changed and reduced role for extension), they “did a good job under the circumstances”. The level of involvement of team members varied throughout the project and it was noted that significant communication difficulties were experienced with some stakeholder groups. A strong theme was the challenge of communicating a clear message to a range of groups and agencies with vastly different cultures and agendas.

### ***Change in attitudes and behaviour in NRM decision-making***

There were a range of views on the impact of SIF3 on natural resource management decision making. CMA Board members, CMA staff and DSE policy advisors expressed strong views about the positive impact SIF3 had made.

*“SIF3 changed my expectation of what people should do – it’s a very tractable version – seems to have become the minimum requirement – very practical and implementable – not just a head office idea”*

**DSE Policy Advisor**

*“Seems to work well where the threat can be represented spatially – the challenge will be where you apply it to other threats where the spatial dimension is less certain”*

**CMA staff member**

SIF3 was noted as a major strategic focus for the CMA Board. They had moved from initial scepticism to now having a high level of confidence in the approach. There was recognition that a logical, analytical approach should be used whereas before gut feel and intuition were sufficient.

*“Public meetings in the targeted areas where landholders were more interested in subsidies than salinity outcomes – this was where I started to realise that the” targeted approach” was a very nice public relations exercise”*

**CMA Board Member**

DPI researchers didn’t believe that the process had a major impact on their decision making approach, but that it confirmed their current thinking. They felt that some aspects of SIF3 such as the public: private benefit framework had advanced their thinking. Impact on attitudes and decision making were least evident amongst DPI extension staff, with a sense that they weren’t really directly connected or influential in the decision making process.

### **Conclusions**

There were significantly different reactions to SIF3 among stakeholder groups in this study. The CMA Board and DSE policy advisors, operating at a strategic level, are in a powerful position to influence change in salinity planning and investment. These groups have become strong advocates for SIF3 and expressed a desire to extend the approach to issues beyond salinity. They also believe the approach has the potential to positively influence natural resource management across Australia and that there are no credible alternatives to underpin effective and efficient targeting of resources for salinity investment. The framework forms the foundation for the recently developed North Central Land Management Plan and is now underpinning regional investment planning for salinity management. The reaction of some groups, particularly extension staff and implementation committee members was more equivocal, suggesting that they had more to lose from a change in direction recommended by SIF3. A move away from general extension and incentive delivery will require a major cultural change that may not be easily embraced by some people.

We believe some key factors have contributed to the successful implementation of SIF3 in the NCCMA region. These include:

- The formation and development of a multi-disciplinary research team comprising expertise in economics, ecology, farming systems and social science.
- The high level of trust that was built between members of the SIF3 team and stakeholder groups in the region. This was strengthened through regular contact between researchers and relevant individuals and groups, a high degree of visibility and the use of accessible language for communicating the SIF3 framework.

- The recognition by regional leaders, in particular the Board of the CMA, that a new approach to salinity investment was required and that transparent, evidence-based decision making should integrate science and local knowledge. This was a bold and courageous approach given that the substantial past commitment had built strong expectations about continuation of the previous approach in some areas of the region. This highlights that extension of the SIF3 approach to other regions is unlikely to succeed without a desire by key decision makers to question the current orthodoxy.
- The robust, transparent, defensible and logical nature of the SIF3 framework which was an essential ingredient.

The application of SIF3 is still in its infancy in the NCCMA region but the impact to date has been profound.

### **Acknowledgments**

We would like to acknowledge the significant contribution of individuals and stakeholder groups within the North Central CMA for their partnership in this work. The work could not have been conducted without support from the CRC Plant-Based Management of Dryland Salinity (now Future Farm Industries CRC) and partner organisations, the Departments of Primary Industries and Sustainability and Environment in Victoria, and the University of Western Australia.

### **References**

- North Central Catchment Management Authority (NCCMA). 2002. Second Generation Dryland Salinity Management Plan for the North Central Region (draft). NCCMA, Huntly, Victoria.
- North Central Catchment Management Authority (NCCMA). 2003. North Central Regional Catchment Strategy 2003-2007. NCCMA, Huntly, Victoria.
- Pannell, DJ (2008). Public benefits, private benefits, and policy intervention for land-use change for environmental benefits, *Land Economics* (in press).
- Park, G., and Alexander, J. (2005) Integrate or perish – Lessons in Integrated NRM from North Central Victoria. *Australian Journal of Environmental Management*. 12, 47-56
- Ridley, A.M. and Pannell, D.J. (2008). Piloting a systematic framework (SIF3) for public investment in regional natural resource management in dryland salinity in Australia (this conference).
- Ridley, A.M. and Pannell, D.J. (2005). The role of plants and plant-based research and development in managing dryland salinity in Australia. *Australian Journal of Experimental Agriculture* 45, 1-15.