

## Evaluation of a Large Complex Multi-issue Program

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### **Abstract:**

The Shepparton Irrigation Region Catchment Implementation Strategy (SIRCIS) is a complex program, referred to in this paper as the 'Program' made up of sub-programs. Its focus is on better management of natural resources in the 500,000 hectare irrigated region, particularly in relation to management of water. At its commencement in 1990 there was a commitment to evaluate the Program and its sub-programs regularly. Given the issues of water scarcity, climate change and government policy, the evaluation process is crucial to the improvement of the Program and its components.

This paper describes the comprehensive evaluation process for reviewing the SIRCIS after 15 years of operation. The review was designed to have strong and consistent governance, principles, technical support, accountabilities and processes. The paper outlines the issues around the design, management and conduct of the inter-related evaluation processes.

The evaluation focused on a framework which provided information on the efficiency, effectiveness and appropriateness of the strategy and sub-strategies. The evaluation ensured that the processes were useable, cost-effective, accurate, comprehensive and transparent. It emphasised the principles of engagement, ownership of end results, and a focus on process improvement.

A unique feature of this evaluation was its focus on assessing the larger future challenges and opportunities for the region for future scenarios rather than just focusing on the status quo. This was done by looking at the four future scenarios identified by a major related research project called Irrigation Futures. The four scenarios are: Moving on; New Frontiers, Pendulum and Drying- up which were developed as possible and plausible futures for the region over the next 30 years. These scenarios were used during the review process as a way of looking forward to consider possible challenges and opportunities for the region.

During the process, major challenges for the evaluation were identified. The challenges include: complexity, scale, timelines, diversity, multiple organisations, consistencies and practical usable results. Documentation and publication of this thorough evaluation process for a large complex multi-issue program will provide guidance for future evaluations, particularly for natural resource management. The evaluation process generated a series of documents, insights and recommendations which have then enabled the development of a modernised Shepparton Irrigation Region Catchment Implementation Strategy. It also is contributing to evolving government water policy and the implementation of the recently announced \$2 billion Foodbowl Modernisation Project.

**Key words:** Large scale programs, multi-issue programs, evaluation principles

### **1.Introduction**

This paper describes the overall process used to evaluate a complex series of sub-programs which make up a major Program called the Shepparton Irrigation Region Catchment Implementation Strategy, referred to in this paper as the 'Program'. This Program has overseen the establishment and management of a range of diverse catchment activities and works, and has been renowned for its success in improving sustainability. The success that has arisen from the conduct of this strategy has been at least partly due to planning and improvement processes associated with regular evaluation. The evaluation process described in this paper was carried out at the end of 15 years of operation of the Program, in the as overseen by the Shepparton Irrigation Region Implementation Committee.

There were three complementary purposes associated with conduct of this review. The first purpose was to provide documented evidence of success and failure of the program while exposing insights and learnings of participants arising from the review. The second was to provide a result based on a consistent approach used for the evaluation of the interdependent sub programs. The third was to enable improvement and change.

While a program review process takes place at approximately 5 year intervals, the conduct of this coordinated evaluation at the end of 15 years of operation of the catchment program provided an opportunity to be more planned, thorough and consistent. The outcome arising from the evaluation processes, including documentation and sharing of the results, and the adoption of improvements associated with the learnings leading to the ultimate intended outcome of improved catchment sustainability.

## **2. Approach**

The overall process for the evaluation included desktop studies of previous and recent review work in order to build on existing information and knowledge. There was a planned approach of involvement of the people and organisations which included staff employees in agencies, external stakeholders, funders, community members, and the end users of the work of the Program. The overall process was run as a thorough coordinated project to ensure sound governance and management. Technical support was provided by an evaluation advisory team made up of staff with an interest in evaluation. The whole process was overseen by a review coordination group which was made up of the four authors of this paper.

**2.1 The complex program:** Catchment management is complex by definition. One of the key reasons that an evaluation of this type was carried out was that we were dealing with a range of complexities. There is complexity associated with the relationships, governance and partnerships between a variety of government agencies community bodies and groups. There is also great complexity associated with the management of catchments from technical, scientific, economic and social perspectives. The program is made up of several sub-programs: farm, environment, sub-surface, surface drainage and waterways. For these programs to be successful, they need to interact as well as act alone.

Our approach needed to take account of the fact that some of the results and outcomes we were seeking to find were as a result of those interactions between the sub-programs. The evaluation process was in fact a parallel series of evaluations or reviews. These were able to be conducted in a co-ordinated and consistent fashion as described, however an opportunity was also taken to a look at issues which are

cross program or cross-discipline by nature. For instance some of the issues associated with resourcing, knowledge management and maintaining staff capacity were relevant across all reviews. As a result of this need, the coordination group ensured that cross-program issues were incorporated within individual reviews. Given the nature of catchment management, it is important that the running of individual catchment programs is done in a co-ordinated and cooperative way to reduce the risk of unintended negative or perverse outcomes, and this applies also to evaluation and improvement activities.

**2.2 Looking forward: use of futures thinking:** A unique focus of the evaluation process was to look back at recent results and the quality of the work conducted, while also looking forwards. Looking forward involved building on learnings arising from the results of the previous five years while combining that knowledge with emerging scenarios which will have an impact on conduct of the program into the future.

The futures thinking included interaction with a major project called Goulburn Broken Irrigation Futures which ran prior to, and during, the conduct of this evaluation, and which helped provide a useful framing device. It provided future possible scenarios for the region, and identified significant issues which needed to be taken into account when designing the strategy to be rolled out for the next five to 15 years. Each of the individual reviews, and cross program issues were required to consider future scenarios as a part of the review approach. This project comprehensively developed and examined possible future scenarios at the Regional level for the medium and long term, with input from a diverse range of people from across the region.

Four future scenarios were scoped out: Moving on; New Frontiers; Pendulum; and Drying Up. The scenarios looked at different combinations of plausible future and current issues at a regional, national and global level. These included issues like economics, climate, trade, distance, energy, planning, population, employment, community and environment. This work was linked closely to the evaluation process, particularly through key staff placed on technical committees, and contributed to cross-program implications for the Program evaluation process

**2.3 The evaluation framework:** The framework for the whole review was determined early in the review process. The Australian Business Excellence Framework (ABEF) provides a thorough overall approach to business management which is soundly based on evidence, learning and improvement. The ABEF was used as a guide throughout the design and conduct of the evaluation described here. A key part of using the ABEF is the use of an improvement cycle which involves: identifying the **approach; deploying** that approach; **reviewing** the results of using that approach; and finally going through an **improvement** process to develop modified approaches for the next cycle of the business. There are also seven key strategy areas, and 10 principles which underpin the ABEF.

Each of the individual sub-program reviews was required to use three key themes to generate information: **efficiency, effectiveness** and **appropriateness**. Each of the individual reviews was also required to use a triple bottom line approach so that account was taken of social, economic and environmental factors associated with catchment management, and to avoid it being too one-dimensional.

With the support of the evaluation advisory team, the coordination group conducted regular seminars, workshops and steering committee meetings to support all participants before and throughout the evaluation. This allowed joint development of learning by participants, and also ensured that a **consistency of approach** was maintained across the multi-issue sub-program reviews. This consistency is considered crucial by the authors.

Use of Program Logic and the development of Key Evaluation Questions helped frame the issues to be reviewed and allowed all concerned to participate in the design and understand the context.

**2.4 Principles.** There were several key principles which were used as fundamental building blocks:

**Engagement:** it was considered very important to engage a cross-section of people with an interest in the results of previous work and the design of future work. This was to ensure that people felt involved in something of great interest to them, rather than using external non-involved in parties to independently conduct reviews. As a result people were drawn from various levels in agencies from stakeholders from the funders and customer groups. This also provided a diversity of inputs of information.

**Ownership of results:** Ultimately the results and recommendations of the evaluation need to be acted on by people directly associated with conduct and management of the work, so key people were involved at all opportunities during the evaluation. Those same people are ultimately responsible for the changes to arise as the Program evolves.

**Focus on process improvement:** there was a strong focus on designing and running the evaluation so that's the results and recommendations could be used to directly improve the core processes used in the catchment strategy, rather than generating results with general recommendations but no responsibility for improvement.

**Partnership approach:** as described in the introduction there are complex governance and partnership arrangements between the government agencies, community-based boards, working groups and networks which need to be accounted for and built on.

**Acknowledgement and celebration of milestones:** catchment management involves dealing with complex issues, solving difficult problems and dealing with conflicting priorities. As part of the evaluation, opportunities were taken to acknowledge and celebrate key achievements and learnings identified during the evaluation. This builds on an understanding that people need to be motivated to participate effectively in difficult or challenging work. Some of this motivation is intrinsic or self driven, and arises from a persons individual drive. Some of it is extrinsic and benefits from bringing broader attention to the quality of the work conducted while giving credit to all those responsible.

**Governance and coordination:** a high degree of coordination was required to ensure the evaluation project progress well. The coordination group, with support of the evaluation advisory team, was given formal responsibility for managing the evaluation and ensuring good progress reporting, quality and participation. This commenced in November 2005 and continued through the 06/07 financial years.

### **3. Discussion**

**3.1 Motivation, participation and ownership.** Evaluation in itself is a very valuable thing. It generates useful insights, new knowledge, data, and qualitative information. If well documented it also provides a foundation and a reference point for the future. One of the observations and learnings arising from this project was that involvement by key people from all levels and from different organisations and communities was very valuable. In particular, if those people who are going to manage change into the future are involved in looking at past successes, failures, processes and structures can be involved in the evaluation processes, they will be well placed for future practical involvement in project management and change. Participation in the evaluation was designed into the process from the beginning, but it was only during the process that it became clear just how valuable that was to all those participating. The celebration of successes of the program was a strong theme during the evaluation processes, and helped participants enjoy the process and appreciate the progress being made.

### **3.2 Value of Futuring**

Evaluation processes classically look backwards. It was a very conscious decision made to look forwards as well as backwards in this evaluation. There always was a key understanding that the evaluation was being carried out with a view to learning and for managing change into the future. All program reviews had a requirement to look forwards, in order to take account of emerging issues, policy change and issues outside of the responsibility or influence of those individual programs. It was important to provide support to ensure that this occurred, and that it was part of the formal process. In many ways the futuring process was quite successful as it forecast emerging trends which subsequently commenced. Examples of those types of future scenarios include: consideration of the possibility of continuation of drought-like conditions reducing availability of irrigation water, rises in fuel prices impacting on regional economies and terms of trade, and the rising value of the dollar affecting prices received by export industries.

### **3.3 Use of previous/ external projects to support the evaluation**

In particular the Irrigation Futures project contributed substantially to the quality of the evaluation undertaken, and the use of results to improve the program. Because the futures project was partly completed, it was able to link to the evaluation, so that both projects were altered to account for each other and the issues they were considering. There was also a conscious effort to include other relevant work which had been conducted previously and was available to add data and knowledge, rather than the evaluation being seen as a very separate process.

### **3.4 Governance, coordination, management and consistency**

There was a high level of design, structured process and reporting associated with this major evaluation. The use of the thorough framework and processes described in this paper were particularly useful for the issues associated with the program interaction and achieving consistency of evaluation approach. It is suggested that without this degree of management that the evaluation would not have been as thorough and valuable as it has transpired to be. This level of design and management has a cost, but given the position that the Shepparton Irrigation Region Catchment Implementation Strategy (SIRCIS) is now in, it has been able to show great flexibility on the basis of evidence, fact and thorough knowledge. It is possible that given the changing financial and policy environment that the

strategy would have struggled to move to a new level without quantitative and qualitative knowledge generated through this evaluation.

**3.5 Conducting the evaluation internally:** Great value arose from conducting the review as internal projects within the program, which would have been less likely if conducted entirely by an outside entity. While some of the work was indeed contracted out, the contact with stakeholders was maintained through the use of the framework and the governance processes. We contend that the involvement of people responsible for, or within interest in, the results of the evaluation added much value. This includes: ownership, use of results, access to knowledge, adaptability etc as mentioned earlier. Arm's-length and process quality was maintained by the application of consistency of the evaluation and appropriate governance of the whole process.

**3.6 Change in policy environment:**

During the late stages of the evaluation, the policy environment commenced shifting substantially. There was a greater focus on water as a finite consumptive resource, and less on catchment protection and sustainability at both state and federal level. There has been a shift from funding water quality catchment programs, to water saving and refurbishment programs. In addition there have been significant government department restructures in natural resource management and agriculture which need to be taken into account. In real terms this has meant a change in emphasis is required to evolve from the evaluation process, so the results will be more valuable and influential than previously intended. The processes used, and the relationships developed during the evaluation will make this transition easier.

**3.7 Utilisation of results:**

The key outputs of the evaluation include the publishing of a formal Review document for each of the sub-programs. These are the Farm, Environment, Surface drainage, Sub-surface drainage and Waterways. The Shepparton Irrigation Region Catchment Implementation Strategy has been rewritten on the basis of the individual reviews, and the overall evaluation, and includes a new implementation plan for the 2006-2011 period. Together with further business planning processes, these evaluations are leading to a substantially altered Program (Strategy) to take account of new directions, opportunities and knowledge.

**4. Conclusions**

**Large complex programs:** Complex multi-issue programs benefit from a thorough and consistent series of evaluations, which consider internal and inter dependency issues.

**Future outlooks:** A strong element of looking forwards and backwards helps focus the evaluation towards change and program improvement.

**Documenting the process:** Thorough documentation of the evaluation processes provided accessible results within all the review documents. It also provides the methodology for future use, and a context for interpretation of results into the future.

**Ownership of recommendations:** the conduct and participation of key staff and stakeholders in the evaluation provided a strong ownership of the generation of results and their associated recommendations.

**Learning organisation:** the use of the evaluation framework, particularly adoption of the idea of a process improvement cycle, helped engender a feeling that we were interested in learning from the past and using that knowledge productively.

**Progress:** since completion of the review processes and their documentation, the knowledge gleaned has been incorporated into a new documented Shepparton Irrigation Region Catchment Implementation Strategy (SIRCIS) strategy plan, and an associated action plan for sub-programs. It is also being fed into higher level regional catchment strategy processes to satisfy the needs of Federal and State funding organisations. Sub-programs have evolved to reflect the needs identified by the evaluations.

## **5. Recommendations**

The overall learnings which might be useful for other major multidisciplinary program evaluations could be clustered under the following three subject areas:

**Consistency:** be consistent in approach across all elements and programs.

**Documentation:** thoroughly document the processes, and learnings about use of those processes, for both future use and for understanding the context of the results.

**Celebrate and communicate results and outcomes:** build in celebration of successes and enjoyment of the whole process to keep people motivated, and to help ensure effective communication of the results leading to improvement of processes.

## **6. References/ Further Reading**

Australian Quality Council: Australian Business Excellence Framework.

Department of Primary Industries, Goulburn Broken Irrigation Futures, final report, 2007.

Farm Program Review, SIRCIS, Goulburn Broken Catchment Management Authority 2007

Environment Program Review, Goulburn Broken Catchment Management Authority 2007

Subsurface Program Review, Goulburn Broken Catchment Management Authority 2007

Surface Drainage Program Review, Goulburn Broken Catchment Management Authority 2007

Shepparton Irrigation Region Salinity Management Plan 1990

Shepparton Irrigation Region Catchment Implementation Strategy