Sunraysia Modernisation Project 2 – Collaborating with Customers to build resilience of the Lower Murray Water Rural Irrigation Business

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Customer engagement, rural irrigation, community

EXECUTIVE SUMMARY
Lower Murray Water Urban and Rural Water Corporation (LMW) worked closely with its customer committees and the community to develop a project to deliver water to about 2,000 hectares of new horticulture developments adjacent to its existing irrigation infrastructure. The challenge was to design the project to meet the requirements of both existing customers and new proponents within the risk appetite of LMW. The project is jointly funded by the Commonwealth Government and private sector investors. The benefits include lower unit costs of water delivery for existing customers, new local jobs for the community and $40 million net economic benefit 1 to Victoria and Nationally.

YEAR CASE STUDY BEING IMPLEMENTED
2019

CASE STUDY SUMMARY
SMP2 addresses three key opportunities:
1. Demand for new, economically viable agricultural development in the region serviced by LMW. LMW was aware of the demand for new agricultural developments and initiated a rigorous, market-led process to determine the extent of this demand. This market-led process enabled the requirements of investors to be matched with the optimal technical and commercial design as well as the location of the proposed developments. Investors signed legally binding Commitment Agreements, including payment of initial deposits and provision of unconditional guarantees to cover the estimated cost of construction.

2. Provides cost-effective irrigation infrastructure that will enable expansion of productive agribusiness in Sunraysia. If LMW did not provide SMP2 infrastructure, then it is highly unlikely that the productive land would be developed.

3. Mitigates increasing input costs that threaten the competitiveness of the existing 2,800 LMW irrigation customers who compete globally. Increased utilisation of the existing irrigation infrastructure capacity will result in additional net revenue that may be used to offset cost increases (such as electricity) and/or be available for re-investment in LMW water delivery infrastructure. New customers will be allocated Delivery Shares and pay usage charges at the same rates as existing customers.

LMW developed a Business Case 2 for the SMP2 project that was endorsed and submitted by the Victorian Government for funding under the Commonwealth National Water Infrastructure Development Fund – Capital Component (NWIDF). LMW was informed recently that it was successful in attracting NWIDF funding.

The support of existing customers and the wider community was crucial in achieving funding. Over 80 community and customer sessions were held over a 4-month period to identify customers concerns. These concerns were then addressed in the design of a binding Commitment Agreement that was signed by each of the investors.

1 Net economic revenue includes farm margins not revenue in the economic model as the revenue stream. The rationale is that the margin represents the true economic value to enterprises from using water.
2 Lower Murray Water, 2017
SMP2 will deliver up to 25GL of water to six investors to irrigate up to 2,000 hectares of new agricultural developments commencing late 2019. The project will enable cost savings for all customers while maintaining the same level of supply reliability for existing customers. The project has a net economic benefit of $40 million and will result in 30 new full-time jobs in the Sunraysia region. The flow on positive impact of this across the community includes increases in local spending with businesses, local employment and upskilling retained within the area and opportunities for local businesses to expand their operations and diversify.

CASE STUDY DETAIL

Background

LMW operates across the municipalities of Mildura, Swan Hill and Gannawarra in North-Western Victoria, with LMW’s operating area and key services shown in Figure 1. LMW delivers irrigation water services to the districts of Mildura, Merbein, Red Cliffs and Robinvale.

Figure 1: Lower Murray Water operating area.

LMW’s operating region is highly productive, delivering $2.8 billion per annum (Mildura Development Corporation, 2018) in gross regional product to the Victorian and Australian economy. Conversely, the region is relatively remote and covers a large geographic area extending over 300 km along the lower Murray River, in the driest part of Victoria.

Sunraysia Modernisation Project

In 2016, LMW completed a significant upgrade to the main rural water delivery infrastructure through the Sunraysia Modernisation Project (SMP). SMP invested around $120 million to replace channels with pipelines and upgrade pump stations, automate channel systems with regulators plus upgrade over 4,500 customer outlets to meet industry standards on metering. Following completion of SMP, the Red Cliffs pump station has a capacity of 450 ML/d and Merbein 350 ML/d. As shown in Figure 2, this pump capacity is under-utilised which created the opportunity to deliver more water to LMW rural customers. However, constraints in the delivery infrastructure (channels, pipes and regulators) prevented the additional available water being delivered to customers.

Figure 2. Unused capacity from SMP (ML/d)
**Customer Demand for Water**

Over the past few years, the region served by LMW has seen significant increases in horticultural developments. While these developments have been largely related to the growth in almond plantings by private diverters (irrigators who pump directly from the Murray River), there has also been a major shift and expansion into table grapes within the LMW irrigation district. Based on general discussion with existing and potential customers, LMW became aware of the potential unmet demand for water to irrigate new horticulture developments.

**The National Water Infrastructure Development Fund (NWIDF)**

In this funding round, the NWIDF provided Commonwealth funding for water infrastructure on a co-funding basis. Essentially, the NWIDF offered funding to projects that met specific criteria and was provided on a 50/50 basis. Funding was available only through State-owned entities that had the support of the State Government along with the customers and community where the project was proposed to be developed.

**Historical Issues with a Previous Proposed Development Scheme**

In 1999, a proposal was developed by the forerunner’s3 to LMW to develop land adjacent to the irrigation districts. The proposed ‘Deakin’ project was finally terminated in 2009 mainly because it did not gain the support of existing irrigators or the broader community. The main points of concern for irrigators were that large corporates would squeeze smaller irrigators out, the project was driven by the Water Corporations rather than new customers, and the benefits to existing irrigators were not clear. The Deakin project was divisive and left a legacy of mistrust with irrigators, most of whom remained in the districts at the time of proposing the SMP2 project.

**The problem – How to gain support from existing customers for an expansion of the irrigation districts while reducing LMW water delivery costs?**

In the context of the availability of NWIDF funding and demand for new irrigation land, LMW were granted funding for a business case to explore and define options for new irrigation developments in the LMW service area.

It was recognised that the historical context of the Deakin project was a potential barrier for any new proposal and that customer and community concerns would need to be fully addressed. In addition, there was potential for winners and losers which could lead to legal and commercial issues for LMW.

**The Solution – A market led commercial process that delivered benefits to in-district customers**

The solution comprised four main development streams to underpin the Business Case:

- Commercial process
- Engagement and consultation
- Technical design
- Assessment of the impact on water markets and the Murray Darling Basin Plan

**A Market Based Approach was used to Define the SMP2 Project**

LMW adopted a market-based approach to ensure that the business case focussed on meeting the needs of prospective new customers. The commercial process was as follows:

- Establish the level of interest in new irrigation areas. An Expression of Interest (EOI) was advertised publicly inviting both in-district and out of district investors to provide an indication of their development ambitions. Taking a public approach, rather than responding to individuals or targeting sectors, provided a defensible and transparent commercial outcome while ensuring a comprehensive response and the opportunity for anyone to participate. In aggregate, the EOI identified additional demand of over 180GL per annum spread over several distinct areas as shown in Figure 3.

3 Lower Murray Water is an amalgamation of the previous First Mildura Irrigation Trust, Sunraysia Rural Water and Lower Murray Water Urban.
• Identify priority areas for detailed assessment. LMW established a comprehensive assessment process to identify the preferred areas for further assessment. This involved a formal evaluation plan for the EOI responses with the appropriate probity overlay. From this assessment a large area to the south of Red Cliffs was identified as the priority option. The customer demand for this option was around 80GL per annum and required development of new pump station capacity and pipelines to deliver the water rather than utilise existing LMW capacity. Respondents to the EOI were notified of the outcome of the EOI and the area being assessed.

• Conduct pre-feasibility level assessment of costs. The respondents to the EOI in the selected area were provided an indicative cost of delivery of water to the new irrigation areas. This initial cost associated with the development of new infrastructure was not commercially viable and there was not enough uptake to enable the business case to proceed.

• Revise the proposed project to meet new customer requirements. Based on feedback and discussions held in the previous stage, the project was scaled back to take advantage of the pre-existing spare capacity related to the SMP investment. A Commitment Agreement was developed for the investors to satisfy the requirements of the NWIDF, the LMW Board and the expectations of the existing in-district customers. The Commitment Agreement required an upfront, non-refundable payment of 2.5% of the new proponent’s half share of the forecast capital costs followed by a further 7.5% once the NWIDF funding had been confirmed. The balancing 90% was required in the form of an unconditional bank guarantee prior to the commencement of construction. The investors were also responsible for any cost overruns compared to the initial budget amounts.

Figure 3. Areas identified through the EOI process.

LMW Adopted the IAP2 Methodology to Engage with Stakeholders

There was a very tight timeframe to develop the business case to meet NWIDF requirements and ensure customer and community engagement. Once the funding for the business case was confirmed, LMW developed an engagement strategy to address the perspectives of all key stakeholders based on IAP2 principles of engagement.

LMW’s previous model was to ‘inform’ customers of decisions after they had been made with very little opportunity for customer input or influence. This previous approach did not promote trust and meetings were of little interest and poorly attended.

LMW made a strong commitment to ‘empower’ existing irrigation customers and investors to shape the project to ensure the best outcome for all. The collaborative approach used during consultation and development of

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4 International Association for Public Participation
the business case was key to its success. Customer committee members who represent the community were asked to give ideas, alternatives and identify the preferred solution for the project.

It became clear through this process that LMW had moved from collaboration through to empowerment with the customer committee members. This level of engagement was unprecedented within LMW and gave the committee members a feeling of accountability. Attendance rates at meetings were at an all-time high.

Over a period of weeks engagement and consultation included meetings with the customer committees, community information sessions and focus groups, commodity groups, industry groups, Council and other key stakeholders. Regular updates were provided to local media resulting in articles being published each week during the consultation process. The transparent and collaborative approach fostered a sense of community ownership of the project.

The most critical stakeholder group was existing in-district customers. The key concerns of the existing customers related to why this project was necessary, risks they would they be exposed to, and from where would the additional water be sourced in the water market. In response, LMW crafted the following key messages that provided the basis for all engagement and consultation as well as shaping parts of the Commitment Agreement. The key messages were:

- **LMW's key role is to deliver water to our customers.**
  
  This differentiated LMW from the role of the irrigation developers and validated LMW’s role to facilitate the project.
  
  An important part of this communication was that LMW’s priority is to strengthen the in-district areas. This was important as about 25% of the in-district area was ‘dried-off’ during the Millennial drought when irrigators were incentivised to exit their properties. In parallel with the SMP2 project, LMW also led a cross agency program to ‘rejuvenate’ the districts by bringing the ‘dried off’ areas back into production.

- **New agriculture developments are happening with or without LMW.**
  
  Existing customers were concerned about developments and the impacts on the water market. LMW conveyed that SMP2 would have little or no effect on the total market as developers would find alternative sites if this project did not proceed and LMW and its existing in-district customers would miss an opportunity to benefit from the SMP2 project.

- **By delivering additional water through SMP2, LMW can:**
  
  - Keep costs down for our customers and provide service and security benefits:
    
    ▪ Achieved by higher utilisation of existing LMW water delivery assets. The SMP2 project is projected to increase net revenue by between 30% and 50% as the crops mature on an on-going basis.
    
    ▪ New developers would pay delivery share and usage fees identical to in-district customers. This ensured that there was no perception of cross subsidy or additional financial risk to existing customers. This also ensured that the new proponents did not receive an incentive to develop outside the existing irrigation district by receiving discounted rates on delivery share or usage fees.
    
    ▪ The water supply reliability was also addressed as the Commitment Agreement specified that new developers would have second priority in the event of any pump failures. This risk was made clear to new developers who could decide to mitigate the impact by building on-farm water storage.
    
    ▪ LMW’s financial sustainability is a function of capacity utilisation. Through stress test analysis, it became evident that LMW needs to deliver a minimum of 80GL per annum to ensure positive cashflows. The SMP2 project essentially provides a 20% buffer to protect LMW’s sustainability.

  - Strengthen the Sunraysia region:
    
    The SMP2 project was projected to add $40 million Net Economic benefit to the region and add 30 permanent full-time equivalent jobs to the region.

Over a three-month period LMW conducted over 80 customer and community sessions to raise awareness and seeking feedback and input to shaping the final commercial arrangements.

The key engagement was with the LMW customer consultative committees. These comprised:

- **Customer Service Advisory Committees (CSAC) for each of the 4 irrigation districts.**

- **Strategic Advisory Committee with representatives from each CSAC and including private diverters.**
Generally, joint meetings were convened involving up to 30 irrigators to work through the issues, risks and benefits. The initial meetings were met with a high degree of scepticism. The basic theme conveyed by LMW was that we would only proceed with SMP2 with the support of the existing customers. Over time the committee members were in a position to understand the project in detail, culminating in a joint letter of support to the State and Commonwealth Governments via the business case. The final step to reach a written commitment from the customers was crucial in obtaining approval for the project through the State and Commonwealth Governments. More importantly, it was a testament to the willing collaboration between customers leading to positive outcomes for customers, the community, State, Commonwealth and LMW.

LMW’s customer committee members became ambassadors for the SMP2 project, lobbying with local members, State government, local businesses, commodity groups and the wider community to build and maintain support. The time invested in engaging with our customer committees proved invaluable as committee members were able to dispel any negative comments, references to the previous Deakin Project or misconceptions that may have been within the community.

Technical Design

The project was designed to utilise existing pump station capacity at Red Cliffs and Merbein. Analysis was undertaken to consider existing demand, unused but issued Deliver Share capacity and future in-district growth. This analysis determined there was 100ML/d of spare peak capacity at Red Cliffs and 75 ML/d at Merbein.

To deliver this additional water, the SMP2 project identified constraints that would be relieved through new regulators, expanded culverts and by lining and raising channels. Only relatively low level of investment was required to leverage the SMP investment to deliver on-going benefits to new and existing customers as well as the community.

Water Markets

Analysis prepared for the Victorian Department of Environment, Land, Water and Planning (DELWP) indicated that water availability in the Southern Connected Murray Darling Basin in the driest years of the Millennium Drought was around 1,900GL (Figure 4). Water usage for SMP2 is anticipated to peak at around 25GL once all crops are in full production. In that context, the water demands for SMP2 are relatively low, even during periods of low allocations. Discussions about these risks were conducted with the new developers.

In addition, it is likely that SMP2 water demand would reduce to around 10 to 15GL when allocation prices are relatively high because perennial crops would cease during this time. One important characteristic is that a mix of horticulture and perennial fodder crops are planned to be irrigated via the SMP2 project.
While a number of new proponents own water entitlements or have current leases on entitlements that can be used in the Sunraysia district, the majority of this water will need to be purchased by these proponents.

Proponents have indicated that they have flexible strategies to obtain water for the new irrigation enterprises, and that year-by-year strategies will depend upon enterprise cashflows and the prevailing price of Water Shares and seasonal allocations. New water market mechanisms, such as carryover, allocation parking and forward contracts, are well established and utilised by irrigators.

SMP2 will access water from the Murray River via existing LMW pump stations. The existing Bulk Entitlement of 420ML/d for Merbein and 450ML/d for Red Cliffs is enough to accommodate the additional SMP2 volumes

THE OUTCOME

At the time of writing this paper, the SMP2 project was in the final stages of tendering for the works with the first delivery of water due in November 2019. The SMP2 project is planned to deliver:

- Net economic benefit of around $40m (in Net Present Value terms) from a State and National perspective and at a Benefit to Cost Ratio (BCR) of greater than 1.33.
- $16m increase in the annual value of production to the Victorian economy and a $10m increase in annual income to the Sunraysia regional economy.
- 33 additional jobs (Full Time Equivalent) in Victoria, with 30 of those jobs created in the Sunraysia regional economy.
- Increased capacity utilisation of existing infrastructure that will result in a range of benefits to the existing 2,800 Lower Murray Water (LMW) irrigation customers including cost benefits.
- Alignment with the achievement of the Murray Darling Basin Plan.
- SMP2 enables LMW to build on the success of the previous SMP project and further develop its capabilities for future projects.

An overview of the investment logic for SMP2 in the format required by the State Government and NWIDF is provided in Attachment 1.

REFERENCES


Attachment 1: SMP2 investment logic map.

LOWER MURRAY WATER

Sunraysia Modernisation Project 2 – Strengthening Sunraysia
Sunraysia South and Sunraysia West Schemes

INVESTMENT LOGIC MAP
Business Case Submission

PROBLEM  BENEFIT  STRATEGIC RESPONSE  SOLUTION

Lack of cost effective irrigation infrastructure preventing expansion of productive agribusiness in Sunraysia 50%

Efficient & sustainable expansion of irrigated agriculture in Sunraysia 60%
KPI 1: 2,000 ha increase in area under irrigation by 2030
KPI 2: 100% of developments comply with Mallee Irrigation Development Guidelines
KPI 3: 50% of irrigation infrastructure capex costs funded by private sector
KPI 4: 100% of operating costs (fixed and variable) funded by private sector

Provide additional irrigation capacity to meet increase in private sector irrigated agriculture in Sunraysia through a market-led commercial process 60%

Commission new termination structures for SMP to enable higher flow rates

Augment constrained irrigation infrastructure to provide increased water supply

Modernise inefficient channel infrastructure through re-profiling and lining works

New out-of-district customers with on-site storage facilities

Decrease fixed costs per customer by accelerating growth of LMW customer base 40%

Provide strategic storages to manage risks to reliable supply during peak demand periods

Increasing input costs threatening competitiveness of existing Lower Murray Water (LMW) irrigators 30%

Improved competitiveness of LMW irrigators 20%
KPI 1: Relatively lower Delivery Share fee per customer

Strengthen financial sustainability of LMW 20%
KPI 1: Increased Delivery Share revenue
KPI 2: Decreased allocated costs as % of total costs
KPI 3: Diversity in crop mix of LMW customers

LMW unable to meet private sector demand for water because irrigation network is constrained 20%