Report Summary

Farmer behaviour and enterprise change: Supply Systems 1-6 Wimmera Mallee Pipeline Survey 2009

Project Overview

The Department of Primary Industries commissioned the Water in Drylands Collaborative Research Program to undertake this study with the aim to investigate changes in farmers' attitudes, knowledge and aspirations towards the Wimmera Mallee Pipeline (WMP) and farmer perspectives on the opportunities that have emerged. Baseline research was conducted in 2007 (Supply System 1-5) and 2008 (Supply System 6). Based on these previous surveys, a telephone and online survey was undertaken in July and August 2009 to continue to track changes over time as part of the longitudinal study. The survey involved 300 farmers within the WMP Supply Systems 1 to 6 (Figure 1).

Survey Results

Data analysis included monitoring changes in farmer attitudes, aspirations and farming practices over the last 12 months (SS6) or 2 years (SS1-5), and investigated significant correlations in the data according to whether farmers are connected or not connected to the pipeline. Results of the major changes and trends in the survey data are presented below in two sections. Results for SS1 to 5 are reported first, followed by results for SS6.

Supply Systems 1 to 5

Farm demographics

- In comparison to the baseline, higher levels of on-farm income were noted, and a slight increase in farm equity, while there was a significant decrease in income sourced off-farm.
- Like the baseline results, most SS1-5 farmers manage the land themselves and live on the farm. The major farm practices remain cereal grain production, followed by sheep for meat, pulse production, pasture and hay, and sheep for wool.
- Over the past 2 years, nearly one third (31.7%) of all SS1-5 respondents have changed the amount of land they own, lease or share farm - the most common change was to increase their farm size.

Water management

- In the previous 2 years, 72.2% have changed their water source. Nearly three-quarters of respondents (75.6%) are now connected to the WMP with nearly the same proportion (66.1%) stating this is now a main water source. Rainwater and catchment dams were the other main water sources.
- On average, the pipeline accounts for 47% of the water used per farm in SS1-5.
- Few farmers (10%) have changed the main uses of water on their farm, with livestock (80.6%), domestic (67.8%) and crop spraying (64.4%) still the top three uses of water.

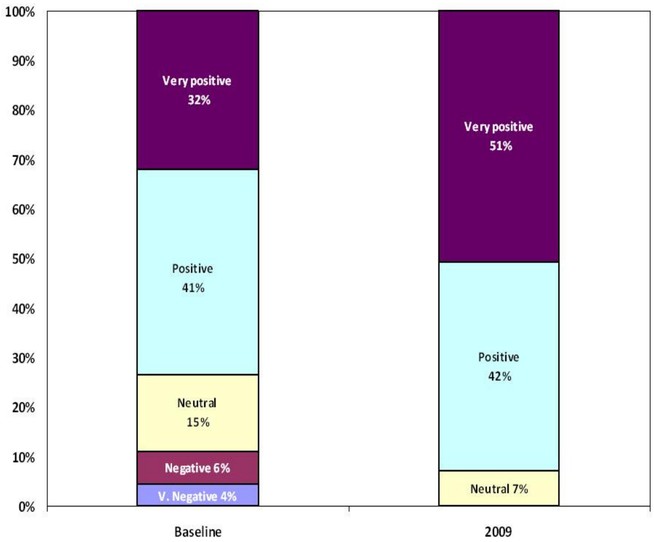
Figure 1 Wimmera Mallee Pipeline footprint

Source: GWMWater 2007

Attitude and knowledge towards the WM pipeline

- The overall positive attitude toward the WM pipeline increased (Figure 2) - 92.3% indicating their attitude was either positive or very positive (in comparison to 73.4% in 2007).
- On average, knowledge levels have significantly increased on when and how much water farmers will get from the pipeline. SS1-5 respondents have the highest level of knowledge on *pipeline infrastructure needs for their farm*.

Figure 2 Attitudes towards the WMP, SS1-5 2009



Perceived benefits and concerns of the WM pipeline

- The benefits that received the highest ratings by SS1-5 farmers connected to the pipeline are *flexible water supply*; *increased effectiveness of chemical application*; and *improving the farm's financial security*.
- In line with the baseline results, the most concerning aspect of the pipeline remains the *cost of piped water*.

Opportunities explored/taken up with the WM pipeline

- There has been a significant increase in the proportion of SS1-5 farmers who have explored opportunities from the baseline (from 23.5% to 39.4% in 2009). The top three opportunities explored are *value-adding*, *intensification* and *diversification of new crops or livestock*. To date, one quarter of those connected had taken-up at least one new activity.
- Respondents were asked to rate the importance of factors influencing the uptake of opportunities resulting from the pipeline. By far, the factor most likely to influence SS1-5 farmer decisions to adopt new opportunities is *being assured of water supply during peak periods and dry years*.

Investment in infrastructure & future farm plans with the WM pipeline

- Most SS1-5 respondents (81.7%) have already invested in on-farm infrastructure with an average expenditure of $23,925 per farm. In the next 12 months, 40.6% have budgeted for on-farm pipe works; the amount budgeted on average, is $13,276 per farm.
- Over the next 2 years, three in ten (30.0%) SS1-5 farmers intend to make changes to their farm as a result of connecting to the pipeline. The most common changes nominated by these farmers are changing or adding infrastructure to maximise water access; changing or increasing livestock; adding or altering paddocks or stock containment areas; and, adding or increasing feedlots or intensifying livestock operations.

Interest in water trading

- In line with the previous 2008 survey, the majority of respondents believed they would not participate in water trading or were unsure due to insufficient information.

Climate change and the WM pipeline

- SS1-5 farmers' views were divided on the influence of the pipeline in mitigating climate change impacts. One third (32.2%) agree and one third disagree (35.0%) that

the pipeline reduced their concern towards climate change with respect to the farm's future. Nearly half (46.1%) believe *the pipeline enables their farm to maintain it's profitability under hotter and drier conditions,* while just over 25.6% disagree. Similarly, half agree (46.1%) *that the pipeline increases their ability to adapt to the challenges of climate change on their farm*, and 23.9% disagree.

Overall, this survey shows that as more farmers are connecting to the pipeline, optimism and knowledge of the pipeline has increased. Interest in maximising the benefits of the pipeline on-farm has also increased, whether that is by improving or expanding existing farm practice, or with the intention of trying out new enterprises.

Supply System 6

Farm demographics

- An increase in gross farm income was notable from the previous year, however equity significantly dropped, whilst reliance on off-farm income significantly decreased.
- Like the baseline results, most SS6 farmers manage the land themselves and live on the farm. Their major farm practices are sheep for meat, followed by cereal grain production, pasture and hay production and sheep for wool and pulse production.
- Over the past 12 months, few have changed their farming practice (8.3%) or the amount of land they owned, leased or share farmed (13.3%).

Water management

- Over half (51.7%) have changed their main water source, and this was to another source other than the pipeline – only 5.8% of SS6 respondents have pipeline connection. This shift has mainly occurred due to an increase in carted water, rainwater, and bore water. Rainwater remains the most common water source and on average accounts for 30% of water used on SS6 farms. On average, 23% comes from carted sources.
- Few SS6 farmers (7.5%) have changed the main uses of water on their farm, with livestock (88.3%), domestic (75.0%) and crop spraying (44.2%) remaining the top three uses of water.

Attitude and knowledge of the WM pipeline

- The overall attitude toward the WM pipeline remained positive. However the number of respondents who rated their attitude as positive or very positive decreased slightly from 81.8% to 77.5%.
- On average, knowledge levels have not changed, and there is most uncertainty about how much water respondents will get from the pipeline. Average knowledge about pipeline infrastructure needs rated highest.

Opportunities explored with the WM pipeline

- The main opportunities explored by SS6 respondents in relation to the pipeline are *value-adding*, *intensification*, and *diversification into new crops or livestock*. The proportion who had explored opportunities (34.5%) had increased from the baseline (22.3%).
- Respondents were asked to rate the importance of factors influencing the uptake of opportunities resulting from the pipeline. The factor most likely to influence SS6 farmer decisions to adopt new opportunities is *being assured of water supply during peak periods and dry years*.

Perceived benefits and concerns of the WM pipeline

- The top three perceived benefits of the pipeline are that it will *provide a more flexible water supply; improve quality of life* and *improve the farm's financial security* (Figure 3).
- In line with the baseline results, the most concerning aspect of the pipeline *is the cost*

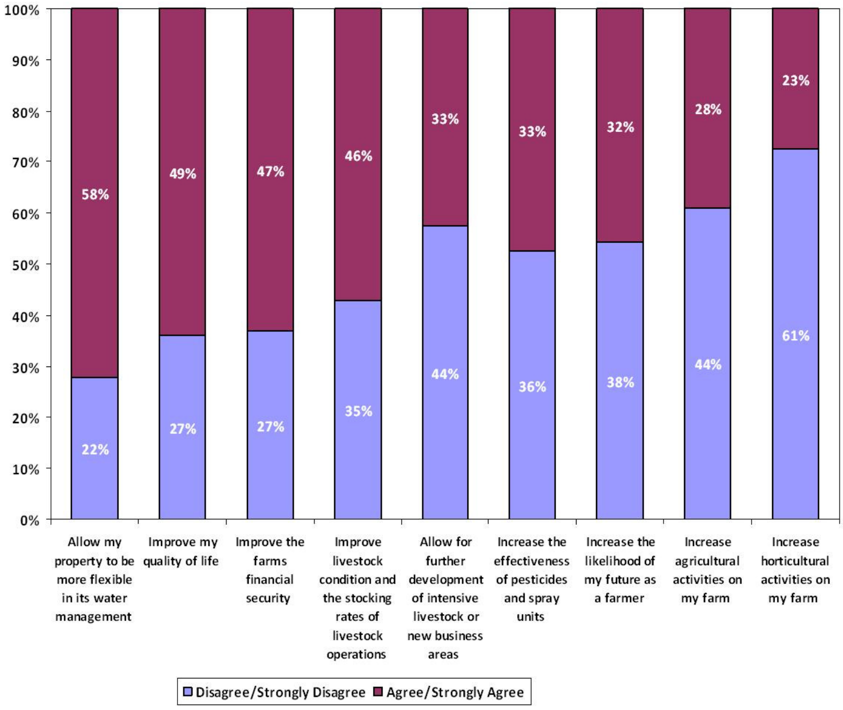


Figure 3 Peceived benefits of WMP, SS6 2009

of piped water, however concern has also greatly increased for *access to water for fire-fighting*, and it has decreased for *having my water metered*.

Investment in infrastructure & future farm plans with the WM pipeline

- Whilst pipeline installation is continuing in SS6, one third (34.2%) have already invested in pipeline infrastructure, with an average expenditure of $19,894 per farm. 42.5% have budgeted for pipeline expenses over the next 12 months. The average planned expenditure is $10,893 per farm.

- The most common changes that three in ten (27.5%) SS6 farmers intend to make as a result of connecting their farm operation to the pipeline in the following 2 years are changing or adding infrastructure to maximise water access; adding or altering paddocks or stock containment areas; and adding or increasing feedlots or intensifying livestock operations.

Interest in water trading

- The majority of respondents believed they would not participate in water trading or were unsure due to insufficient information.

Climate change and the WM pipeline

- SS6 farmers were asked about their views regarding the pipeline and climate change which highlighted a notable division among respondents. About one third (29.2%) agree and 40% disagree that *the pipeline reduced their concern towards climate change with respect to the farm's future*. Nearly half believed the *pipeline enables their farm to maintain it's profitability under hotter and drier conditions* (43.3% agree, however 30.0% disagree), and *increases their ability to adapt to the challenges of climate change on their farm* (45.0% agree, however 30.8% disagree).

In summary, whilst SS6 respondents do not have current connection to the pipeline, it appears they are following a similar trend in exploration of opportunities to SS1-5 farmers. It appears that SS6 farmers have greatest interest in pursuing new farm activities in the areas of value-adding and livestock-related opportunities.

WIDCORP and DPI would like to sincerely thank farmers from the Wimmera Mallee community for your participation in this research.

Your contribution is important to improve the capacity of DPI to assist farmers adapt to a piped system and provide relevant on-farm skills and information.

Download the full report at www.widcorp.com

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