

Dealing with irrigation drought:

The role of water trading in adapting to water shortages in 2007-08 in the Southern Murray-Darling Basin

from ABARE research report 09.6

- The extended drought in the Murray-Darling Basin continued into 2007-08, with Murray system inflows declining to record levels. The combination of low inflows that season and low pre-existing storage levels resulted in a severe reduction in water availability in the Murray system.
- The impact of the drought was reflected in water markets where traded prices reached record highs in 2007-08. The prices of water allocations – which account for the majority of trade in the basin – varied from \$200 a megalitre to \$1200 a megalitre for interstate trade from the New South Wales Murray system.
- This report examines the role water trading played in enabling irrigators to adjust to reduced water availability. Analysis of water market data and face-to-face interviews with Victorian and South Australian irrigators have been used to inform the discussion.
- Water markets are based on voluntary exchanges which benefit both buyers and sellers. Water buyers are able to reduce the impact of the drought on farm income through purchasing additional water. At the same time, these sales enable water sellers to earn additional income.
- The volume of allocations traded interstate increased from around 70 gigalitres in 2004-05 to 235 gigalitres in 2007-08. It is estimated the net benefit of water trade into South Australia in 2007-08 was \$35 million. Trade into South Australia accounted for 63 per cent of total interstate trade.
- Buyers interviewed reported the impact of reduced water availability would have been more severe had they not been able to purchase water on the market. Trade was especially important for irrigators with permanent plantings. Without access to additional water, irrigators with permanent plantings may have had to let some trees and vines go without water, resulting in water stress and long-term damage to the trees. The potential cost of such damage could be significant and demand for irrigation water to avoid this outcome may explain the high water prices observed in 2007-08.
- Interviewed dairy farmers stated the ability to buy and sell water on the temporary market provided flexibility in meeting herd feed requirements. At water prices less than \$300 a megalitre, dairy farmers purchased water to irrigate pasture. However, at water prices more than \$300 a megalitre, dairy farmer tended to reduce water purchases and increase fodder purchases to substitute for reduced on-farm pasture production.
- Almost all irrigators interviewed reduced the amount of water they applied per hectare in response to reduced water availability. However, measures taken to increase the productivity of water applied ensured yield penalties were minimised. For example, adopting water saving irrigation technologies and application methods, such as pressure regulation and partial root zone drying, made water savings possible while limiting adverse impacts on production.
- Overall, most irrigators reported their experiences with water trading had been positive. Victorian irrigators reported trades were generally processed within a week. However, South Australian irrigators reported concerns over lengthy processing times for interstate trades.
- As well as reducing delays in processing trades, there may be gains from providing irrigators with greater flexibility to manage drought risk. This could extend beyond reliable water carryover rights for irrigators to the provision for capacity sharing of dam storages by individual irrigators.