



Confluence: Sharing ideas in the Murray– Darling Basin

Responding to (lack of) water availability in the Murray-Darling Basin



A collaboration with:



The views, information, or opinions expressed herein are solely those of the individuals involved and don't necessarily represent those of the AWS, WaterRA, One Basin or their employees.

Acknowledgement of Country



We acknowledge and pay respect to the Traditional Owners of the Murray–Darling Basin and their Nations.



We invite you to write in the **chat** now and acknowledge the Traditional Owners of the location you're joining from today.

Housekeeping



Panel Discussion will run for approximately **60 minutes**



Recording link will be emailed to you, uploaded to our website and YouTube channel



Short 1 minute survey will pop-up at the conclusion— help shape our future training



Click **Q&A** to:

- Ask questions and make comments
- Upvote or comment on other attendees' questions



Click **Chat** to:

- Talk with other attendees
- Ask AWS staff for assistance

Today's panellists



Prof. Geoff Cockfield
One Basin CRC



Kym Walton
One Basin CRC



Ben Fee
*Regional Development
Australia Murraylands &
Riverland*



Prof. Amanda Howard
*The University of Sydney
& One Basin CRC*

One Basin CRC research programs



Foresight and decisions



Technology and opportunity



Adaptation and innovation



Our challenges



Building Capacity to Confront Climate Change Together



Creating Value from Digital Technologies to Support the Irrigated Agriculture Sector



Enhancing the Water Supply System to Deliver for Multiple Uses



Realising Value From and Within Rural Industries and Communities

Basin snapshot



- 1 million square kilometres
- water to 2.4 million people
- 40 percent of Australian farms
- 8400 irrigation farms.
- \$30 billion food and fibre per year
- Major crops include cotton, rice, wine and table grapes, almonds, citrus and other horticultural crops.

The policy context



- Decreasing inflows (land use change and climate change)
- Multiple demands for water
- Changing values (environment and First Nations peoples)
- Move towards bio-regional governance (under national govt)
 - Capping extractions (regional diversion limits)
 - Water trading
 - Encouragement of water use efficiencies
 - Water buybacks for environmental and cultural water

Consequential vulnerabilities



- Changes in farm landscapes
 - Unpredictable movement of water entitlements
 - Large scale water supply infrastructure
- Farm management
 - High cost of water
 - Compounding market and climatic pressures in some regions
 - Limited options and skills for alternative production systems
- Rural communities
 - High dependency on irrigation industries
 - Limited alternative investment and people attraction

Issues in industry & community adaptation



Type of issue	Agriculture	Community
Long term pressures	<ul style="list-style-type: none"> Cost/price squeeze Opportunity costs of labour & capital 	<ul style="list-style-type: none"> Narrow economies Capital displaces labour in farm industries Retail and service deficits Population & investment flight Opportunity cost of rural living
Impediments to adaptation	<ul style="list-style-type: none"> Costs and skill requirements Ageing farm populations Limited sources of trusted advice 	<ul style="list-style-type: none"> Capital and skill Investment supporting infrastructure Limited support and advice
Water cap & trade	<ul style="list-style-type: none"> Increasing cost of water 	<ul style="list-style-type: none"> Potentially reduced employment, populations, expenditure, service and retail
Water buy-backs	<ul style="list-style-type: none"> Local decreases in production intensity 	

Supporting adaptation For and



- Offsetting historical path dependencies and impacts of values change policies
- Economic and psychological welfare of affected individuals
- Efficiencies in moving farm and local economies to new states
- Sustaining rural communities
- Sustaining a critical sector
- People must live with change
- Cost of support programs
- Inefficiencies from intervention
- Pressures on farm businesses and rural communities are long-standing and inevitable
- High uncertainty about causal relationships and consequences of intervention

The Australian rural policy context



- Very limited and only short-term adaptation support for farm sector and communities
- Limited cooperation between governments
- Local governments with limited capacity but high concern for rural development
- Limited real involvement of affected parties in policy development
- Focus on regional development rather than rural development
- BUT current signs of interest in more comprehensive and collaborative approaches to adaptation in the Basin

A nested approach to adaptation programs 1



Problem	Aim of response	Program types	Knowledge needs
Exceptional industry pressures (prices, climate, etc)	Immediate support for at-risk farm businesses and people	Household financial support Farm business advice Personal financial advice	Needs analyses Transition strategies
	Short-term stabilization of local economies	Preserve government services Bring forward infrastructure \$	Service use and impact analysis Rapid economic appraisal Identify critical investment points
Economically sub-optimal farm businesses	Business adaptation for medium to long term profitability	Grants for enterprise or system change Finance for expansion building business resilience	Farm systems options Innovation pathways & strategies Farm financial analyses Education & training needs & strategies

A nested approach to adaptation programs 2



Problem	Aim of response	Program types	Knowledge needs
Communities are vulnerable and/or have markers for declining economic, social and human capital	Non-farm business development for the medium to long term for diversification and potential growth	Developing entrepreneurial/innovative communities	Training and action research to develop and refine programs Case studies of adaptation successes Analyses of non-traditional business opps.
		Developing social enterprises	
		Business innovation grants	Opportunity & viability analyses
Lack of investment supporting infrastructure	Supporting the investment and attraction environment	Communication upgrades	Needs, priorities and potential benefits
		Social enterprise training	
		Amenity upgrades	
Current land titling limits adaptation	Landscape redesign to support transitions, adaptations, new industries, cultural uses and improved amenity	Flexible land title scheme	Landscape design Spatial analyses

Research and planning questions



- How, and to what extent, do long-term changes in water availability and cost of water affect farm output, scale and labour in both the short and long terms?
- What are the impacts of a reduction in available water on local employment, consumption and services for selected communities in the MDB?
- How can we effectively and efficiently identify community vulnerability to changes in water availability?
- How are farmers adapting (or not) to constrained or reduced water availability? Are there ways in which potentially beneficial adaptations could be supported or accelerated to increase net economic benefits?
- How are communities adapting (or not) to constrained or reduced water availability? Are there ways in which potentially beneficial adaptations could be supported or accelerated to increase net economic benefits?



Thank you

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Australian Government
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Cooperative Research
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