Project fact sheet

Unlocking collaborations for transformation: Towards a platform for data and knowledge sharing

The project focuses on the Murray–Darling Basin, a region of immense ecological and economic importance to Australia. The Basin faces significant challenges, primarily due to reduced water availability. This scarcity impacts the environment, communities, and industries that depend on this vital resource.

Key points

The core of our project aims to understand and influence how various stakeholders navigate these challenges and seize opportunities in this changing landscape. We're looking at community groups, irrigators, and other key players in the Basin's ecosystem. But we're not just observing – we aim to catalyse transformative change and knowledge sharing.

The critical approach recognises that data sharing is not just about information exchange – it's a catalyst for change. We're moving beyond the traditional model of data collection and dissemination. Instead, we're employing a holistic, systems-thinking approach to unlock the potential of transformative change and knowledge sharing in the Basin.

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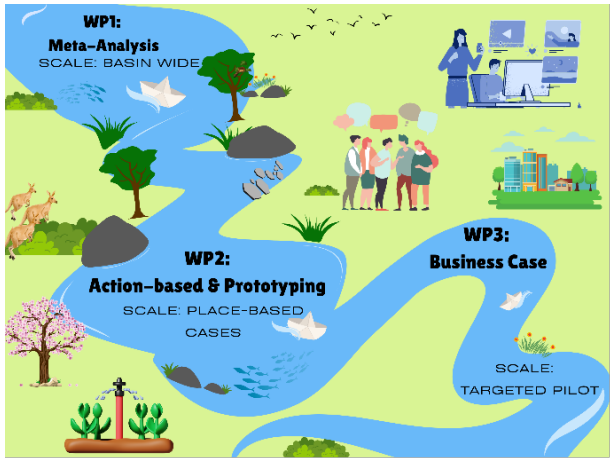
The challenge

Foundational knowledge of water use practices needs to be established and shared. We propose to learn from past lessons and use this knowledge to support future change for businesses, communities, and the natural systems in the Murray–Darling Basin.

Modelling complex environments as a digital twin or other virtual representations of living systems is an engaging and effective way of capturing and disseminating data to stakeholders. The usefulness of such models depends on the quality of the data. Thus, we seek to understand data sources' social, technical, and environmental dimensions and how data can be best captured and utilised in digital systems.



The opportunity

Enhanced stakeholder collaboration: To foster improved cooperation and knowledge sharing among diverse stakeholders (community groups, industries, irrigators) in the Basin, leading to more effective water management strategies.

Data-driven decision making: To revolutionise water resource management by developing a data-sharing platform, enabling more informed and adaptive decision-making processes in the face of reduced water availability.

Innovation in water management practices: To identify and address gaps in current practices, potentially leading to innovative solutions and more efficient water use.

Scalable knowledge transfer model: To develop a framework for knowledge sharing and stakeholder engagement that could be applied to other water-stressed regions globally, positioning the project as a leader in water resource management.

Our research

We've designed a scaffolded approach with three sequential work packages, each building on the insights of the previous one.

First, using meta-analysis, we'll examine what we already know. We'll review past projects and map out how different groups are connected using social network analysis.

Second, using emergent action-based research, we'll work directly with people in the Basin to test innovative ways of sharing information.

Finally, we will create a new system plan to facilitate data sharing to support a business case for a digital platform.

Outcomes

- **Stocktakes** and **meta-analyses report on** the implications of existing knowledge and information for future water use in the Basin.
- **Social network analysis** – mapping relationships between stakeholders.
- **Prototypes** will provide precise user requirements, evidence, and user support for investing in developing new tools.
- Recommendations for a business case **for a new system** that will help everyone in the Basin work together better.

Next steps

The research team is poised to embark on critical next steps, demonstrating a robust and multifaceted approach to addressing the project's objectives.

The initial stages of the project are concentrated on developing the WP1 meta-analysis protocol, which will serve as a cornerstone for subsequent research activities. The production of several key deliverables will complement this foundational work.

A preliminary report on the value of community data and knowledge assets will be compiled, offering crucial insights into the role of local expertise in water management.

Concurrently, the team will develop a comprehensive model and data catalogue, documenting current processes and technologies for accessing and sharing climate and market information. This resource will significantly enhance data accessibility and interoperability among stakeholders.

Furthermore, a detailed case study scoping report will be produced, exploring diverse areas, including model development and integration, agricultural risk information provision, and tools for place-based co-design of research. This report will incorporate First Nations perspectives on knowledge and data-sharing platforms, ensuring a culturally inclusive approach.

These next steps demonstrate the project's commitment to rigorous, multidimensional research and underscore its potential for generating actionable insights that will inform and transform water management practices in the Basin.