



# Taking the longer view: Timescales, fairness and a forgotten story of irrigation in Australia



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## SUMMARY

This paper explores timescales, changing worldviews and the impact of water reform on irrigation communities in Australia whose water sharing arrangements have roots in an earlier era. Through the story of Australian irrigation it describes some subtle shifts and changes in worldviews that have influenced land and water governance reform over time. It shows how reforms can result in tangible adverse effects on communities if they overturn critical features of earlier resource sharing arrangements without consideration of unintended consequences. Where changing worldviews, reforms and the ability of communities to adapt are out of synchronisation then friction ensues, as was seen in the Murray–Darling Basin when proposed reforms have resulted in widespread disputes between reformers and irrigation communities. Failure to understand how perspectives over time have changed leads to a failure to deliver fairness in water governance reforms.

If policymakers lose understanding of the rationale for earlier arrangements in land and water governance and introduce reforms that do not take these into account then adaptation to the reform and social acceptance is impeded. Seen in this way, time can be considered a competing element in fair land and water governance. Maintaining an understanding of how and why change takes place over time, and the rationale for key elements of governance developed in an earlier era, is critical for those wishing to overcome the challenges of implementation, deliver fairness, and gain community acceptance of reform.

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## 1. Introduction: time and change in water governance

As the saying goes, “times change”, but not everyone accepts or embraces change at the same time or pace. This is particularly true in water governance where water policy reforms can have a major impact on well-understood and long-standing social and physical arrangements for using the water. A further underlying associated message is ‘change is inevitable so you might as well accept it’. Another saying, “resistance to change”, captures the other half of the explanation that reformers often use to reject those who disagree with or protest against proposals for change.

These two sayings about time and change highlight an inherent complexity within water governance that is often overlooked. This complexity concerns the shifting scales of time in which continuity of knowledge may not be maintained over time, and in which the capacity and willingness of people to understand and adapt to changes in water policies varies according to their circumstances. Where people are unable to understand the rationale for reform,

disagree with it, feel that they may suffer adverse impacts as a result of the reform, or are unable to change their day-to-day practices and activities to accommodate the reform, then tensions arise between policymakers and water users. Water reform in the Murray–Darling Basin of Australia is a recent example where tensions between water reformers and irrigation communities flared into widespread protests across agricultural irrigation areas (Connell and Grafton, 2011; Gross, 2011).

This paper explores the development of irrigated agriculture in Australia as a case study to illustrate the complexity of these types of issues in the shifting timescales of water governance. It uses themes of fairness and evolving worldviews to show how time can be considered a competing scale. What is meant here by a competing scale is that what was a prevalent and accepted worldview about resource use at a particular time can come into direct conflict with a later and differing worldview about how to use the resource. What was believed to be a good course of action or way of sharing and distributing a resource in an earlier time may be viewed quite differently at a later time in a changed socio-political setting or environmental context. Time itself can be seen in a qualitative way—not just in the usual quantitative light. What may be seen by government as a long time (say, decades) since

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the last major water governance reform, may be seen as the more recent past by water users embedded in long-standing rural communities.

In relation to land and water governance these competing scales of time can be seen quite clearly in the story of irrigated agriculture. When the irrigation schemes in the Murray–Darling Basin were originally set up in the early 20th century there was an imperative to divert water to irrigate large areas of the dry inland within a worldview of nation-building and economic development (Lloyd, 1988). The history of irrigation development, and hence the story of irrigation, is often forgotten in the current context of economic growth, expanding human populations, and environmental degradation. Now water is seen as a scarce resource to be used to its highest economic value as well as for strategic environmental use to maintain environmental assets. We will return to these themes later.

This paper uses the story of Australian irrigated agriculture that developed alongside co-evolving national worldviews and water sharing policies, to show why knowledge continuity is a critical element in the adaptation of water governance to changing circumstances. Failure to maintain knowledge and understanding over long timescales can have serious and often unintended consequences for all involved in resource sharing. These consequences manifest in enduring tensions between farmers, environmental groups and governing institutions. While some tensions are inevitable in resource sharing, due to conflicting interests, others are avoidable if good governance techniques are used (Falkenmark et al., 2004).

A goal of this paper is to contribute to a greater understanding of how to achieve good governance techniques and fair outcomes in resource use policy, by highlighting some pitfalls of competing timescales, such as loss of understanding of the rationale for decisions made in an earlier era. The paper draws on a longstanding Australian literature examining stages of resource development within the continent and on conversations and interview data from an earlier research project that explored fairness and justice in environmental decision making. These conversations focused on two water disputes in irrigation areas in the states of New South Wales and Victoria (see Gross, 2014). The data was collected from 2007 to 2008 during a time in which water disputes were becoming widespread across the Basin.

The main aim of this paper is to show why a long-term perspective and understanding of water sharing arrangements is crucial if good land and water governance is to be achieved. An understanding and appreciation of why and how decisions are made over time is required in government agencies and in stakeholder groups if lessons are to be learned and absorbed into good practice.

Irrigated agriculture is a particularly interesting case study of land and water resource use and governance with many similarities occurring between irrigation schemes in countries around the world. Similarities include long histories and deeply rooted social cultures and ways of life; long-standing upstream – downstream disputes over water extraction and sharing; diverging views on how water and land should be used for the public interest; and a common dilemma in which many irrigation communities find themselves defending their use of water for the production of food and fiber against those who argue that irrigation damages the environment. Much has been written about the importance of irrigation and its place in the development of a society. For example, the Commission on the Future of Irrigation describes irrigation in the USA as “the basis for an economy and a way of life”, holding a special place in the development of American society. The Commission emphasizes the importance of a “historical perspective” and that “in part, the future of irrigation depends on what society learns from these [past] experiences” (National Research Council, 1996: 2,9).

The paper is organized in six sections. The next section introduces the three themes of worldviews, water governance and fairness. This is followed by a contextual and historical background for irrigation in Australia including the biophysical context, the historical phases of water development, and some aspects of water governance reform. The fourth section describes perspectives from people involved in Australian irrigation to show how water sharing in irrigation schemes worked well and was considered a fair distribution of a resource. This section also discusses worldviews and myths in Australian water planning and differing perspectives as worldviews shift over time. The fifth section explores some lessons from the unintended consequences of water reform and discusses how land and water governance can be improved. Concluding comments are provided in the final section.

## 2. Worldviews, water governance and fairness

### 2.1. Water governance and worldviews

Water governance has existed as long as people have been concerned with water management. From ancient small-scale practical techniques to store and conserve water used by indigenous people in Australia (Lloyd, 1988), to massive water infrastructure projects such as the Three Gorges Project in China (Kepa Brian Morgan et al., 2012), water governance is an essential activity ultimately affecting everyone in society.

Underlying goals of water governance are to ensure availability of water for human use (and put water to its so-called best or optimal use) and to provide mechanisms for equitable sharing of the resource within society including returning water to the environment for the health of ecosystems (Falkenmark et al., 2004; Tan et al., 2012).

The approach to water governance taken by a government or institution represents a current societal worldview about how resources should be used to achieve societal goals. Kepa Brian Morgan et al. (2012: 1) suggest that a worldview is “a conceptual model of reality that is eventually accepted as reality itself” in which the worldview becomes “a set of working assumptions that are unquestioned because they are taken for granted”.

The relationship between worldviews and water governance approaches can be quite subtly nuanced. For example Cook and Spray (2012) discuss two approaches that are used in water resource research and management, namely Ecosystem Services and Integrated Water Resource Management. They point out that although these appear to be two distinct concepts, there are, in fact, many similarities between them. They note the “tendency to jump from concept to concept” and recommend instead that more focus is given to implementation challenges than debating the merits of each approach (Cook and Spray, 2012: 93). A goal of this paper is to highlight some forgotten or less well-known implementation challenges in irrigated agriculture to make the point that water governance mechanisms need to maintain some memory of why these challenges arose, how they were dealt with in the past, and what we learned, if anything, from them.

While many areas of water governance are tangible, being documented and accessible, other aspects of governance, such as the beliefs that people hold, are intangible, nuanced and difficult to access and assess. For example, Falkenmark et al. (2004: 298) note the “serious lack of tools” to facilitate greater understanding of the water cycle and integration of differing perspectives and demands on water as an essential element for living systems.

Water governance arrangements include both formal and informal discussion and debate between policy-makers and those with an interest in the resource. Vested interests, personal values, ideologies, social perspectives, worldviews, livelihoods and fairness are important factors that inform these discussions (Molle, 2008; Dore

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