A Measure of Fairness: An Investigative Framework to Explore Perceptions of Fairness and Justice in a Real-Life Social Conflict

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Abstract

Conflicts or disagreements within communities have become commonplace where decisions concerning the allocation of natural resources must be made. Institutions responsible for governance and environmental decision-making frequently struggle to gain broad community and stakeholder approval for proposals concerning natural resources such as water allocation. At the centre of such complex problems are issues of equity and justice. Although there is a substantial body of research and theory on justice, much of this has been in the abstract or external to a social context. The lack of contextually applied justice research is recognized as a gap in environmental resource allocation research. Theories and constructs from several disciplines can be used to unravel the tangle of issues embedded within social problems. This paper outlines one such transdisciplinary research approach and provides an overview of its first application in the understanding of a real-life social conflict concerning the allocation of water for irrigation farming.

Keywords: justice research, fairness, water allocation, social conflict, fair decision-making processes

Introduction

Perceptions and beliefs about sharing, fairness and a just social order have been discussed for millennia. Yet still the allocation and sharing of natural resources remains a societal problem. In both theory and practice, these topics can generate intense debate from the breakfast table to the boardroom. Conflicts and disagreements within communities and between stakeholders and decision-makers have become commonplace where decisions concerning natural resources such as wind power or water are made. At the heart of these conflicts are complex problems involving issues of equity and justice. Such social problems are situated within a local context, each with its own set of socio-cultural norms, resource usage patterns, procedures and rules. Who is entitled to a particular natural resource through what type of access mechanism is frequently subject to a complex set of changing rules and decision-making procedures.

Water reform in Australia is one such area which has taken centre stage as a lengthy and severe drought has brought the threat of serious hardship to both urban and rural communities. Australia is a dry country. It is broadly agreed that water in Australia has been over-allocated (Cullen 2002) and social and environmental degradation has been the result. It is accepted that socio-economic changes are inevitable and awareness is growing that reforms are likely to be perceived as inequitable. Calls have been made for communities to be included in decision-making processes and for justice issues to be included in social research and policy analysis (Schofield et al. 2003; Hussey 2007). Syme and Nancarrow (2005), long-time social justice researchers in Australia, argue that justice and fairness are important components of decision-making processes that can result in greater acceptance of outcomes. Biermann (2007, 9), in his call for research into "earth system governance," suggests that allocation mechanisms that are "perceived as fair and equitable by all stakeholders" are a key research challenge. He suggests that research methodologies should be integrative and reflect social reality and are best based on approaches that are "qualitative, case based, context dependent, and reflexive" (Biermann 2007, 3).

The research described in this paper is a response to these calls and is the first part of a larger research project. The overall issue within which this research is situated is the allocation of natural resources among stakeholders in ways that are perceived as fair and just in procedure and outcome. A first step has been to study a complex social problem concerning an allocation decision that was perceived to be unjust; in this case, the allocation of water for irrigated farming. Prior to embarking on the research, an important first challenge has been to devise a research method through which an understanding of a complex social problem can be gained.

This paper is primarily concerned with this challenge. There are countless ways of going about this and the choice of research method can be a research topic of its own. The point of this paper is to develop and demonstrate an investigative framework within a research approach that enables the researcher to get at the experience of injustice and deliver substantive empirical findings. This paper first presents a research design within its methodological context and within the context of the complex social problem that it addresses. Secondly, the paper shows how this research approach can be used in practice in a case study, and how the preliminary findings can contribute to justice discourse.

The case study is a small rural community in Australia that depends upon irrigation water for its major social and economic well-being. In October 2006 decision-making authorities unexpectedly cut the water allocation during an extended period of drought. This took irrigators by surprise and precipitated a protest attended by many people. This case was chosen for two reasons. First it was clear from the large numbers of protesters that there was a current and important issue to be investigated. The second was that the protest was concerned with a natural resource allocation decision which made it a good subject for justice research. The research focuses on individual perceptions of the decision and the consequences of the decision on the community: it is not about community consultation or water allocation *per se*.

Research Design

A Holistic and Adaptive Research Methodology

Understanding complex societal problems requires a research methodology that is holistic and adaptable. A holistic approach recognizes that there are linkages between biophysical and social systems. Integrative research (Dovers 2005), human ecology (Berkes and Folke 1998) and transdisciplinary research (Pohl 2005) are such holistic approaches which transcend disciplinary boundaries. Transdisciplinary research is gaining acceptance as a research approach that can transcend individual disciplines to gain multiple perspectives that could not be achieved within a single discipline (Wickson et al. 2006). Pohl (2005, 1160) describes transdisciplinary research as searching "for a viewpoint that lies between, or beyond, disciplines" and that takes "knowledge which is produced and organised in accordance with a particular discipline and rearrange[s] it so as to make it useful and meaningful for socially relevant issues." However, these definitions seem to imply that the disciplines are still the organizers and keepers of knowledge. Brown (2007) identifies five sources of knowledge (individual knowledge, local community knowledge, specialised knowledge, strategic knowledge and holistic knowledge) and argues that it is the interactions and

syntheses between these sources that can contribute to a collective understanding of a complex issue.

The research methodology in this paper draws on these approaches in developing an investigative framework. This framework can be applied as an analytical tool to carry out the research and explore the implications. It is based on an approach outlined by Berkes and Folke (1998) in which a conceptual framework can help the researcher to "think about phenomena, to order material, revealing patterns—and pattern recognition typically leads to models and theories" (Rapoport 1985, 256 cited in Berkes and Folke 1998, 15). The investigative framework has the dual purpose of first encouraging the researcher to consider a broad range of knowledge sources in the development of the analytical approach and second to assist in the ordering of the empirical part of the research process. Sources of knowledge drawn upon include justice theory, the historical context, current institutional arrangements and findings from the local community itself. The researcher seeks patterns of interactions (see Berkes and Folke 1998) between the societal arrangements, communities, institutions and biophysical systems to shed light on the societal problem at the centre of the study. The investigative framework moves the research towards the overall goal of developing an integrative framework for incorporating concepts of fairness and justice into natural resource management.

Within this transdisciplinary research approach, the theoretical and empirical components of the research can be interwoven in a way that is best described by Layder's (1998, 37) "adaptive theory." Here, the actual process of the research is a continuous cycling between the theoretical aspects of the research and the empirical findings, with each cycle or rotation resulting in new explorations, connections and discoveries in each area. In this research, the theoretical stage preceded the empirical part of the research. The investigative framework draws on an earlier framework used to investigate community perspectives of a proposed wind farm development. In that research, a community fairness framework—itself an adaptive research outcome—was developed from the theoretical constructs and empirical data (Gross 2007).

The Research Method

An important aspect of transdisciplinary research is the recognition and acceptance that this type of research is breaking new ground and does not have the comfort of established research methods typically found within individual disciplines (Wickson et al. 2006). Research methods appropriate for the situation must therefore be devised. These will be dependent on both the context and on the angle taken by the researcher, which in this research is a justice perspective. The research approach must be capable of teasing out the core el-

ements from the compound problem. However, the discomfort of working outside disciplinary boundaries and their well-established and accepted research methods must not be overlooked (see Braud and Anderson 1998). For example, the qualitative-quantitative divide still exists (Dovers 2005), and research that uses case study and qualitative approaches can still be challenged on the grounds of lack of precision and rigour (Yin 2003). Despite these ongoing research challenges, the research design must address the research problem while recognizing the perceived strengths and weaknesses of the methods chosen.

The research methods literature offers categories of the different types of research and appropriate methods for each different type (Braud and Anderson 1998). 'What and why' questions are typically described as exploratory where little is known about the situation, in which case a qualitative approach, such as an interview, would be an appropriate first research method (Braud and Anderson 1998). In this research, a community protest and the impact of a water allocation decision on the community is being investigated. Central research questions are "What was the central issue of the protest? What motivated people to attend the protest? What were the perceived effects of the decision on the community?" A semi-structured interview approach with key informant members of the community was therefore chosen as the method which would be most likely to draw out the underlying reasons for the social unrest and associated themes (Lewis 2003). An investigative framework was developed in which the interview questions were based on constructs drawn from justice and social psychology theories (described in the next section), and from information sourced from the media and other areas. The framework provides a consistent question structure and sequence for all interviews.

Theories of Justice and the Psychology of Justice

Much of the debate on concepts of justice has been concerned with individual rights, social justice, the welfare of society at large and how material goods should be distributed (Hudson 2003). Research into theories of justice has traditionally been the domain of such disciplines as philosophy, theology, social theory and jurisprudence. This changed in the 1970s when social psychologists recognized that people cared not only about outcomes (distributive justice) but also about how decisions were made. The term procedural justice was introduced to describe the fairness of decision-making processes (Lind and Tyler 1988). Principles of procedural justice include the ability to participate and express voice; impartiality and trustworthiness of decision-making authorities; adequate information; being able to raise issues and have

them responded to, and being treated with respect (Lind and Tyler 1988; Tyler 2000).

Early research into procedural justice found that fair decision-making processes were perceived as more important than outcomes on the basis that "procedures matter to citizens because fair procedures produce fair outcomes" (MacCoun 2005, 182). Theories that people are more likely to accept decisions that have been made according to the principles of procedural justice have been confirmed in practice (Syme and Nancarrow 2005). This is in contrast to the still commonly held notion that people are more concerned with outcomes in order to maximise their own benefit (Tyler 2000; Syme and Nancarrow 2005). Tyler and Blader (2000, 71) call this "the myth of self-interest" and advocate that "people are less influenced by assessments of outcome favourability than is commonly supposed." People do, however, care about "outcome fairness," which is the degree to which an outcome meets some societal standard or norm of fairness (Skitka et al. 2003).

Why people care about justice and how people's behaviour is influenced by their thoughts on justice are questions central to social psychology research (Tyler et al. 1997; Ross and Miller 2002). Many theories and models have been proposed to shed light on these and related questions (see Tyler et al. 1997; Clayton and Opotow 2003). How personal identity is connected to a person's thoughts and beliefs about justice is one such area. Skitka (2003, 288) proposes in her Accessible Identity Model (AIM) that people have three primary layers of identity "the material, social, and personal or moral" and that whether something is seen to be fair or unfair depends on which of these layers is foremost at the time. The material identity concerns family, possessions and wealth. Social identity is concerned with a person's social status in the group or community and personal identity concerns moral values and beliefs. The AIM suggests that people will engage in thoughts about justice if any of these three areas are threatened, and that people can have different and multiple motives for adopting a justice viewpoint depending on the circumstances. The AIM can also apply to a group's perspective of justice and a group can engage in issues of justice at a material, social or moral value level (Skitka and Bravo 2005).

The importance of social identity in determining why and when people care about justice is reinforced by Clayton and Opotow (2003) who suggest that justice and identity are inextricably interconnected and that justice must be contextualised. Platow et al. (2003, 267) discuss the importance of a shared social identity within a group value model and argue that "shared social identity is the basis of fairness motivation."

Lupfer et al. (2000, 406) review research into how people experience fairness and comment on the relatively scant

research on "the actual experiences of people undergoing just or unjust events." Their own research into how people experience fairness in everyday events supports the distributive and procedural concepts of justice developed by justice researchers and suggests that people react more strongly to unfair than fair events (Lupfer et al. 2000).

From this brief review of some aspects of a complex still-evolving research area two key considerations emerge. The first is that the fairness of procedures and outcomes does matter, but outcome favourability and self-interest must also be considered. The second key point is that understanding the context in addition to individual and group perspectives is necessary to analyse how people become engaged in, and react to, issues of justice. This research attempts to draw together the above theories in a justice application.

The Investigative Framework

The investigative framework, outlined in Table 1, consists of two sections: a contextual background and a set of semi-structured interview questions. The interview questions draw on the constructs outlined above, particularly Skitka's (2003) Accessible Identity Model (AIM) and the principles of procedural justice. The questions are designed to sequentially draw out interviewees' perceptions of the conflict, starting with abstract notions of justice and fairness, progressing through the individual elements of the decision-making process, and finally to evaluating the overall process and outcome in terms of fairness and justice. The AIM was chosen because it recognizes that a situation can have a variety of different impacts on a person or group, and that these can be material, social or personal, rather than the commonly held view that self-interest is a prevailing and overriding factor. This choice of construct was driven by earlier empirical findings (Gross 2007). This is the iterative cycle that is at the heart of Layder's (1998) adaptive theory. The AIM also acknowledges that a person needs to have some level of engagement with a situation to think about it in terms of justice.

The Case Study: Irrigation in a Dry Country

An Extraordinary Drought Brings Tensions to the Surface

It is well known that Australia is the planet's driest, inhabited continent. Less well-understood until recent years has been the extreme variability of Australia's rainfall, particularly in the southern half of the continent. Low rainfall in the last six years culminating in an exceptionally dry year in 2006 has brought the water crisis to the forefront of the nation's consciousness (Mitchell and Wahlquist 2006). The crisis has stimulated a multifaceted and complicated debate. Topics range from proposed solutions to the shortage of water for cities to how water should be used and what mechanisms are most appropriate to achieve desired outcomes. Also within the debate are concerns about the critical state of many of Australia's river systems and wetlands resulting from water

Table 1. The investigative framework

SECTION	CONTENT	
1	CASE STUDY CONTEXT	Includes information relevant to the case study drawn from a variety of sources including a historical perspective, biophysical factors, social context and institutional arrangements
2	INTERVIEW QUESTIONS	
	Background information and context	Occupation, connection with area, position in community, membership of groups and activities related to institutions or groups
	Concepts of fairness and justice	Understanding of the terms fairness and justice external to context
	Understanding cause of issue and involvement	Awareness of the issue, what is at the heart of the issue, attendance at protest
	Level of interest in issue and reasons for interest (Adapted from AIM: Skitka 2003)	Exploring how the issue affects the individual and/or group in terms of material, social and personal realms Ranking on scale of 0 to 5 for each area
	Level of understanding of institutional arrangements relating to the issue	Exploring how well informed people think they are about water allocation, where they obtain the information, and how satisfactory it is
	Elements of process (Based on procedural justice principles)	Exploring experience and perceptions of events as the issue unfolded: notification, information, opportunity for participation and voice, opportunity for concerns and issues to be raised and responded to, respectful treatment and level of trust in decision-making authority
	Fairness and justice evaluation of process and outcome	Exploring perceptions of fairness related to how the process was managed and relating concepts of fairness and justice to the overall issue of carry-over water
	Suggestions for improvements	Exploring how the outcome could have been made more acceptable

diverted away from natural channel flows to storages for human use. The 2500 kilometre long River Murray is one such river system, which has attained national iconic status. Marking the border between the states of New South Wales (NSW) and Victoria, the River Murray originates in the Snowy Mountains in south-eastern Australia and flows north-westwards to the border of South Australia before turning south to reach the Southern Ocean. With its highly regulated system of water storages, weirs, and barrages, the River Murray has become a focal point for the tension between water for the natural environment and water for irrigated agriculture and townships along its river banks (Blackmore 2002).

One aspect of this tension broke the surface on December 15, 2006 in Deniliquin, NSW. Over 2000 members of the local community took to the streets of this small rural town of 8500. They were protesting against recent government actions in October and November to cut part of their seasonal water allocation without offering compensation. "Water thieves leave farmers parched" was the headline used by a major metropolitan newspaper (Lewis 2006). The article described how irrigation farmers perceived this action as a property violation equivalent to outright theft (Lewis 2006). This article provided sufficient detail for the protest to be chosen as the case study for this research.

Water in Australia: History and Myths

Since European settlers arrived in Australia in the late 1700s, the availability of water for towns, agriculture and industry has been a continuing and predominant concern. Factors that have shaped the water history of the country include socio-political interests and boundaries, the political economy, geography, climate and, not least, the prevailing attitudes, aspirations and needs of the times (Powell 1989; Smith 1998). Three main phases of water development are generally recognized (Smith 1998; Blackmore 2002), but the lines between these are blurred.

In the first phase, pioneering European settlers set about finding and using water for domestic sanitation purposes and developing their livelihoods. A major drought from 1877 to 1881 in Victoria put water provision on the political agenda. Towards the end of this first phase, in the 1880s and 90s, the first large water infrastructure projects had been launched and the first water legislation in Australia had been enacted (Smith 1998).

In the second phase, economic development was the driver for large-scale public works such as storage dams and irrigation infrastructure. But tensions emerged between the three states sharing the water of the River Murray. South Australia viewed the river as an important navigation system for river trade. In NSW and Victoria irrigation industries were expanding (Clark 2002). Irrigation agencies responded

to calls to increase the rural population by developing compact farming blocks based solely on irrigated agriculture (Smith 1998).

The second phase of infrastructure development continued until well into the second half of the 20th century. The 19th century aspirations, now seen by many as myths, of "making the desert bloom" by using "waters which now run to waste" was a primary motivation for the most ambitious infrastructure project of all—the Snowy Mountains Scheme. Waters of the great Snowy River could be diverted west to the dry inland to be put to productive use by irrigators. How this could be achieved was debated from 1885 until 1949 when the final dual-purpose scheme was adopted. The water was to be used both for hydro-electric power generation and irrigation (Lloyd 1988). Whether the scheme's primary purpose was irrigation or hydro-electric power generation was an underlying issue then (Davidson 1969) and remains a discussion point to this day. The scheme was completed in 1974 and was an outstanding engineering success.

In the first and second phases of water use in Australia, people were driven by their need to develop their livelihoods and governments were motivated by economic development. But agricultural problems such as erosion, rising water tables and salinity became serious issues. Political boundaries were recognized as a hindrance to effective natural resource management (NRM) and it became clear that a biophysically based catchment management approach for NRM was needed (Blackmore 2002).

The third phase, still current, can be regarded as a response to the problems created in the first two phases (Blackmore 2002). The Murray-Darling Basin Commission, established in 1987, put a cap on water diversion in 1995 (Dole 2002). The 2004 National Water Initiative (NWI) set out a comprehensive national water reform process. Key elements of the NWI include identification of over-allocated water systems and restoring those systems to sustainable levels, modifications to the water access entitlements to increase confidence in water property rights and expanding water trade to encourage water to be used for the highest economic return (National Water Commission 2007, 1).

Development of the Murray Irrigation District in NSW

In 1912 NSW formalised water rights for private irrigators and established the basis for joint water supply schemes and the development of government-owned irrigation districts and areas (Martin 2005). The Murray Irrigation District, in which the town of Deniliquin is located, was developed over a 25 year period starting in 1933. Initially, water for this irrigation district was to be used to drought-proof dry-land pastoral farms and not for the intensive style of irrigation used in the closer-settlement areas in other river valleys (Martin 2005).

However, this changed as the irrigation industry developed in response to economic growth and as new crops, such as rice, were introduced. Rice was found to be highly profitable and production increased dramatically as irrigators subdivided their land to gain increased water allocation per farm (Martin 2005). This period was characterised by intense interactions between irrigators and the government regarding irrigation practices and water allocation (Martin 2005).

Water Allocation and Carry-Over Water in NSW

The current water allocation system in NSW recognizes different water entitlements according to the level of security of the supply. The two main categories are high security water (for towns, stock and domestic supplies and irrigation of permanent plantings) and general security water (for annual crops and pasture). An annual allocation process determines how much water is available in each of these categories according to the volume of water calculated to be available in the River Murray system. In NSW the allocation policy is to maximise the water available to irrigators each year, leaving minimum water reserves for the following year (DNR 2006a). A risk management tool was introduced in 1998 that enabled irrigators to individually carry over up to 50% of water from one year to the next (Martin 2005). This carry-over water is central to the case study. The hierarchy reflecting the allocation priority set out by the government determines that carry-over water from the previous year is higher than high security entitlements that, in turn, are higher than general security entitlements (DNR 2006a). This is based on the rationale that carry-over water is "an unused allocation from the previous year" (DNR 2006a, 20). Irrigators are also able to purchase additional water from other irrigators through a trading scheme.

The Case Study: An Irrigation Community Protests

The town of Deniliquin was first settled in 1845 on the Edward River, an anabranch of the River Murray. From its early origins as a river crossing point and wool growing region, Deniliquin has become a prosperous rural town servicing the Murray Irrigation District.

In the previous section, I described how water is allocated in NSW. This included an explanation of carry-over water and its purpose. There are two key points to note about carry-over water relevant to this case study. First, it is a risk-management tool, introduced by the government, by which farmers could organize their water allocations between seasons and manage the risk of a subsequent dry year. Second, in the hierarchy of allocation of water, carry-over water is deemed to be on a higher level than high security water, because it is considered to be from the previous year's water allocation (DNR 2006a).

In the allocation year of 2006-07 the overall water allocation was announced according to procedure in July 2006: 97% for high security and 0% for general security. On October 15, 2006, the irrigation community received notice through a government media release that cutbacks to the current water allocation would take place immediately (DNR 2006b). This came without prior warning and surprised the community. On November 10, 2006, a second cutback was announced. The first cutback reduced the allocation by 20% and the second cutback by a further 32%. The cutbacks applied to carry-over water and water that had been purchased through the water trading scheme. The second announcement was preceded by discussions between organizations involved in the irrigation industry and government agencies (MIL 2006). The cutbacks caused great concern to the irrigation community. A protest was held on December 15, 2006, at which irrigation and community group representatives made statements to the gathering. No compensation for the reduction in water allocation was offered by the government. However, subsequent to the protest, an extraordinary assistance package was announced under which farmers could receive financial assistance if they could demonstrate hardship.

The Fieldwork

The fieldwork was carried out in two stages. In the first stage, 12 interviews were conducted in the Deniliquin area of NSW between January 23 and January 30, 2007. The questionnaire was then modified slightly to simplify some questions. The second stage of interviews was carried out in the same area between February 14 and February 26, 2007. A total of 43 interviews were conducted. Interviewees were selected using the snowball or networking method (Ritchie et al. 2003) whereby each was asked to nominate people that they thought could represent different perspectives (such as irrigators, business people, conservationists, agency representatives) within the community. Interviewees were provided with an information sheet on the research and were asked to sign a consent form. Interviewees were also advised of the confidential nature of the research and that any publications would exclude identifying information. During the interviewing process stakeholder groupings were identified and interviewees were selected from these groupings to gain as full a range of perspectives as possible.

The interviews were recorded and a high-level analysis from fieldwork notes was carried out. This analysis focused on four key areas, with data drawn from a subset of the interviews. These preliminary findings represent a partial analysis of the data. The full data set will be transcribed, coded and analysed before the complete findings of the case study research are presented.

Perspectives from an Irrigation Community

As previously noted, this is still research in process. These are preliminary findings from a partial analysis of the case study data. All material in quotations is drawn directly from the interview data.

How People Defined Fairness and Justice

Defining the terms "fairness" and "justice" did not come easily to most people interviewed and this question caused many to reflect for a few moments before answering. The overall impression gained from the research is that people found it difficult to define the terms and differentiate between them. Many people described fairness as the day-to-day way of treating people fairly, for example, that "everybody gets a fair go," "doing the right thing" and "that people treat each other as they would like to be treated." Many people thought that justice has more to do with the legal system such as "I think of lawyers and the law" and that "justice is done where a wrong is righted." There was some degree of scepticism about justice, with one person saying that justice depends on "how much money you've got and whether you can afford barristers." One person said that he had a strong sense of injustice and did not like to see injustice take place. This person described fairness and justice as being close in their definition, with fair being "a little more flexible" and "in justice I need to know the facts."

What was at the Heart of the Protest?

For most people interviewed the fundamental issue was that this water, considered to be equivalent to a property right, had been taken away by government action with no prior warning and with no compensation. One person described it as "a third-party had come into your territory and taken away your right, without any discussion or warning, so the heart of it is that it brings into question what it means to have a right." Some interviewees, who were not in favour of irrigation in general, also considered this to be an unfair action which "could have been handled better." Many members of the community, who were not directly affected by the action, were supportive of the protest because they disagreed with *the way* this action had been done, not *why* it was done. One person said "if there is no water there is no water but don't take it away from us like they did and then ignore us... this could push people over the edge." Another person said that she disagreed with the action because farmers had shown responsible farming practices and had been trying to work with the government and accept changes, and then the action by the government was taken with "no consultation and no real recognition of impact." The same person commented that "governments don't behave in a way that shows that they

have considered the impact of their decisions." Many people, including community leaders, expressed strong views using such words as "it is a gross injustice" and "it was disgraceful" and "the action was tantamount to theft" and "decision-makers have completely stuffed this up" and "farmers have been crucified."

Effect on Individuals and the Community

A wide range of perspectives emerged on how the carry-over water issue had affected individuals and the community. Those who had been directly impacted by the water reductions (and had either lost carry-over water or water that they had purchased) had the most material impact and described the financial impact on their farming business. Some farmers had planted crops in anticipation of receiving the water, and now had to face seeing the investment in seed and land preparation go to waste. Most farmers talked about how they had adapted to the new situation by altering some aspect of their operation but were frustrated with the lack of warning or consultation by the decision-making authority. One farmer said that he "agonised" over decisions and that "it knocks you around with your thinking" when faced with changing situations.

The social and personal impacts on individuals and the community were as much discussed as the material impacts. People were concerned about the level of individual suffering with some farmers being so badly affected that their livelihoods were in jeopardy. Some talked about the extent of depression and risk of suicide in the rural areas. Several community leaders interviewed were concerned with the longer term "demoralising" and "destabilising" effects that the decision would have on the community. One person explained what he meant by "destabilising" as "what underpins communities is the ability to be optimistic about the future and invest in the future . . . those actions have undermined this ability." One person thought that young farmers would opt to leave the area for work in a town rather than take over the family farm, "why would they want to get into farming when this sort of thing can take place?" Many people reflected that their own personal values had been affected by the water cutbacks, and some commented on the personal strain on relationships that would emerge as a result of this decision.

Fairness and Justice in Relation to the Carry-Over Water Issue

While many interviewees found it difficult to define the terms fairness and justice at the start of the interview, they seemed to experience little difficulty in relating these terms to the context of the carry-over water issue. People generally had very strong opinions about the unfairness of the outcome, particularly since the carry-over water mechanism was seen as a tool promoted by the government for farmers to use

to manage their operations through the drought. For the government to "change the rules" and take away a part of this mechanism was seen to be unjust, primarily because carry-over water and purchased water were perceived as belonging to the individual irrigator. The extraordinary assistance package offered by the government was seen as "tokenism" which did not have "fairness at the root." One person suggested that information was the key to justice and fairness: too much "disinformation" had been perpetuated and "both sides have handled it poorly." The risk should have been stated earlier and irrigators should not have been allowed to think it was "water in the water bank."

People also expressed strong views that *the way* they had been treated was not fair and was unjust, "we know the rules—that's fair. But to be treated like this, that's not fair. The way we've been treated is unjust—no justice at all." Many people thought that the government had the information and should have known earlier about the shortage of water. In this case they could have warned the community that cuts needed to take place. This would have been seen as fair by many, because they would have been able to make decisions about how they would use less water much earlier in the season. The majority of interviewees felt that the decision-making agency had not treated the farmers or the community with respect during the process.

Discussion

Understanding a Complex Social Problem

The preliminary findings presented in the previous section reveal a rich data set that can be further analysed to gain an in-depth understanding of the Deniliquin protest and water carry-over issue. From this preliminary analysis three key findings emerge. First, irrigation farmers were protesting about a perceived property right being taken away from them without adequate recognition or compensation. This was seen as the central issue. Second, an underlying reason for members of the general community to attend the protest was a sense of unfairness in the way the irrigation community had been treated, and to show their support. Third, not everyone in the community agreed about the fundamental issue and some expressed different perspectives about water allocation and the irrigation community reaction. The approach adopted in this research has enabled some emerging themes to be revealed (Table 2), not only in relation to the water carry-over issue, but also connected to other social and livelihood beliefs and concerns held by community members.

Use of the Investigative Framework

The framework proved valuable in two main ways: first, in putting emphasis on the need to gather contextual infor-

Table 2. Emerging themes from the research as expressed by interviewees

ACTIONS BY GOVERNMENT AGENCIES

1	Agencies can change the rules without informing stakeholders
2	Agencies are not concerned with the impact of their actions on communities
3	Agencies are not required to share information with stakeholders

EFFECT ON COMMUNITY

1	Community groups give voice to concerns
2	Community concerns about livelihoods, mental health and depression
3	Sense of betrayal within community—irrigators believed they were working with the government to manage their risk during drought
4	Local knowledge not valued
5	Lack of information on water reform and many diverging views retained

SOCIETAL TENSIONS

1	Between government and irrigators: latter do not feel respected or valued
2	Between urban and rural society: declining interactions between towns and country and irrigators do not feel valued as producers of food
3	Between use of water for power production (Snowy Hydro) and for irrigation
4	Between water for environmental flows and water for irrigation during drought
5	Between upper river users and lower river users (interstate)
6	Between irrigator community and conservationists

mation at all stages of the research process. This was important during the interviews where some people described the several "hats" they wore in the community and their activities related to these group memberships. Second, the framework was useful in structuring the interview such that people gradually became engaged in thinking about fairness and justice, and were able to answer questions in their own way without being specifically asked if an element was fair or not. The questions relating to awareness, involvement and how the issue affected people provided categories and enabled interviewees to provide more specific responses across a wider range than they might otherwise have thought of at the time. Without the conceptual structure provided by the framework, it would have been more difficult to distinguish between aspects of the preliminary findings (outlined in the next section), for example, between the different ways in which the impact was felt and between perceptions of fairness in process and outcome. Without the framework's focus on justice and fairness it is likely that the substance of the interview would have been more about the pros and cons of the outcome and less about perceptions of fairness of the decision-making process. The benefit of this approach is that it paves the way for generalisations to be drawn about how decision-making processes can be improved, rather than how one particular outcome could have been improved.

Contribution to Justice Discourse

Returning now to the adaptive theory that underpins this research approach (Layder 1998), it is clear that there are many meeting points and connections that can be made between the numerous theoretical concepts presented in the literature and the rich data gathered in this research. A first round of abstractions from the findings are identified as follows:

- Although people found it difficult to define fairness and justice in an abstract sense, they had no difficulty in applying these terms in practice. The interviews revealed a deep and complex understanding of fairness and justice when discussed in relation to the current conflict.

- People talked mainly about the injustice of the outcome. While many commented on the unfairness of aspects of the process, these were outweighed by perceptions of lack of justice of the outcome.

- People recognized the exceptional circumstances of the drought and that the rules needed to change, but this did not lessen the injustice of the outcome.

- Some people believed in the overall notion of justice and related this to the issue, whereas others were sceptical about whether justice exists or not.

- People described the powerful social, personal and material effects of the issue on individuals and the community.

- People were concerned about the way in which they were treated and this in turn reflected on the degree to which they felt valued.

These preliminary findings give a strong indication that this research can contribute to knowledge about how people understand the notion of justice and how they experience injustice in real-life. Taking one example, as outlined in Table 2, it was clear that many of the perceptions of injustice were related to actions taken by government agencies. These findings could be explored within the context of the attribution-of-blame model developed by Mikula (1993). Mikula's model outlines five elements that can contribute to a perception of injustice: first, if there is a violation of entitlement; second, if this is caused by another agent; third, if the agent had control over the action; fourth, if the action was intentional, and fifth, if the action was not perceived to be justified (Mikula 1993, 229). At first glance, this model could have some application to these empirical findings. This is one example of adaptive theory at work. Prior to the identification of these preliminary findings the potential relevance of Mikula's model is unlikely to have arisen as an area worthy of exploration.

Conclusions

This paper set out with two specific tasks within a broader research context. The first was to present a research design within a methodological context, and within the context of a social problem in which the equitable allocation of a vital resource was the central issue. The second was to demonstrate how the research approach can be applied in practice and can contribute substantive empirical findings to justice discourse. This paper has developed an investigative framework within a transdisciplinary research approach. How the use of this framework can shed light on a complex social problem and how the subsequent findings can contribute to justice discourse, was set out in the discussion section. This first use of the framework can be considered exploratory and no doubt improvements can be made. For example, Mikula (2005) argues for greater conceptual clarity in distinguishing between measures of justice and suggests that there are direct and indirect measures. Nevertheless, these empirical findings, which show that matters of fairness and justice run deep in the community, clearly support the use of such a framework to explore the experience of injustice.

Perhaps most importantly, the value of this paper lies in its contribution to the transdisciplinary field of justice research by developing an investigative tool of enquiry within a research approach (adaptive theory) in which several theories and a range of actual experiences can be combined to yield new insights. The paper has proposed that a holistic and adaptive research approach can combine theories about justice with practical research findings to develop insights that could not be developed from either area in isolation. This iterative approach, in which theories inform the analytical process and then the resulting data are examined in relation to those theories and others, encourages a constant probing of the data and examination of the methods used. In this way, the separate strands of theory and data can form connections that open up new insights into complex social problems as well as the refining of the theory.

Returning to the broader context—the challenge of how scarce resources are allocated within a framework of decision-making that is perceived as fair. This research reveals community perspectives on justice in an unfair context. The knowledge gained as a result of the unjust experience should prove valuable to those seeking to integrate principles of equity and fairness into decision-making processes.

Endnote

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Acknowledgements

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