Water under the Bridge:

Fairness and Justice in Environmental Decision-Making

by

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Candidate's Declaration

This thesis contains no material which has been accepted for the award of any other degree or diploma in any university. To the best of the author's knowledge, it contains no material previously published or written by another person, except where due reference is made in the text.

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Acknowledgements

Abstract

Concepts of justice and the distribution of public resources have been an important aspect of social debate for centuries. Finding fair and just allocations of natural resources remains a major preoccupation for national governments and their constituent communities. Yet Australian governments, despite their long history of dealing with resource use conflicts, have largely failed to establish lasting legal or institutional frameworks in which resources are allocated in ways that are seen as equitable, fair and just. Where such allocations or decisions are perceived as *un*just, underlying social tensions can emerge and result in social conflict. This study examines two such social conflicts in which communities expressed dissatisfaction with government plans and decisions through organized protests. The first case study explores community reactions to a 2006 NSW government action to cut a water allocation in the Murray Irrigation District. The second investigates community reactions to the Victorian government's North South Pipeline and Food Bowl Modernisation Project initiated in 2007.

This study investigates these conflicts from a justice perspective, concentrating on notions of fairness and justice. Using a transdisciplinary investigative framework the thesis explores these notions through stakeholder perceptions of procedural justice and distributive justice. Procedural justice is concerned with the fairness of elements of the decision-making process and distributive justice with the outcome or decision. The study aims to find out how people perceive fairness and justice within the social context of the decision-making process and how these perceptions contribute to their acceptance of an outcome. The study also explores how better outcomes might be achieved.

The study finds that justice and fairness are critical in determining people's acceptance of, or opposition to, a decision. Participants discussed conceptions of fairness or a sense of justice invoked when they perceived unfairness or injustice to themselves or others. The study also finds that people distinguish between the terms fairness and justice, with the former being concerned with how individuals treat each other on a day-to-day basis and the latter with the legal system and outcomes. The importance of *injustice* in any consideration of fairness and justice is shown in the way people felt they were treated during the decision-making processes and in the proposed or actual outcomes. Stakeholders experienced a variety of ways in which the process or outcome affected their lives: these included material, social and personal effects. A diversity of motivations for seeking justice emerged, including protection of livelihood and property rights, protection of community interests, maintaining environmental integrity, and justice as a means of valuing people's contribution to society.

The thesis relates these findings to justice theories. Distinctions between justice and *in*justice are discussed: the thesis argues that justice can be conceptualised as an active process which prevents or remedies perceived injustice. The thesis explains *why* justice is important, not only to those directly affected by a decision, but also to those indirectly affected or onlookers. The thesis finds that in order for resource allocation decisions to be perceived as fair and equitable the three constructs of justice—distributive, procedural and interactional—are all required. A principal finding is that procedural justice and interactional justice are important in determining the acceptance of outcomes because they deliver things that people feel they are entitled to, such as respect, information and recognition of their right to be involved in a decision-making process. The thesis suggests the development of analytical tools based on justice constructs that can be used in decision-making processes in a proactive way to increase the acceptance of the outcome: theories of justice can be seen as a means and an end. Finally, the thesis explains why a theory of justice is required in decision-making within natural resource management.

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List of acronyms and abbreviations

ACT	Australian Capital Territory
COAG	Council of Australian Governments
DEWHA	Department of the Environment, Water, Heritage and the Arts
DNR	Department of Natural Resources , NSW Government
DSE	Department of Sustainability and Environment, Victorian Government
MDB	Murray–Darling Basin
MDBA	Murray–Darling Basin Authority
MIL	Murray Irrigation Limited
NHMRC	National Health and Medical Research Council
NSW	New South Wales
NWC	National Water Commission
NWI	National Water Initiative

OECD   Organisation for Economic Co-operation and Development

SA   South Australia

Glossary and Terms Used in Water Resource Management

Cap	A limit imposed on water that can be extracted or diverted from a system
Carry-over water	Water carried over from one water allocation year to the next allocation year for use at a later date
Catchment	A land area from which rainfall run-off combines into one river system
Gigalitre (GL)	One billion (1,000,000,000) litres or 1000 ML
Inflows	Water that flows into a water storage or river
Megalitre (ML)	One million (1,000,000) litres
Managed investment scheme	In a managed investment scheme investors contribute to a common enterprise to produce financial gains. The scheme is managed by a responsible entity and investors usually acquire interests in the scheme through their investment rather than direct ownership of the resources
Over-allocation	Refers to situations where the total volume of water able to be extracted by water users exceeds the environmentally sustainable level of extraction (Productivity Commission, 2006:xix)
Sleeper and dozer water licences	A sleeper licence is one which has not recorded any water use at all; a dozer licence is one which has had some recorded water use but not up to 100% (Martin, 2005)
Stranded assets	In an irrigation system the term "stranded assets" refers to irrigation infrastructure assets that become less utilised and therefore less financially viable as a result of water being traded out of the system

Chapter 1: Searching for fair and equitable solutions

The Dartmouth Dam, Mitta Mitta River, Victoria, February 2007

(Photo: Catherine Gross)

1.1   *Sharing natural resources: perspectives and problems*

1.1.1   Natural resources, natural events and societal responses

> I love a sunburnt country,
> A land of sweeping plains,
> Of ragged mountain ranges,
> Of droughts and flooding rains.
> I love her far horizons,
> I love her jewel-sea,
> Her beauty and her terror—
> The wide brown land for me!
>
> (Mackellar, 1971:4)

Australia is a vast continent of great natural beauty, variability and extremes. Fires, floods and droughts are a natural feature of the land and can be devastating to whole communities and ecosystems. The second stanza of Dorothea McKellar's timeless poem, *My Country*, published in 1908 (Mackellar, 1971), with its famous and often quoted phrase "Of droughts and flooding rains", encapsulates the simultaneous admiration, fear and devotion that this dramatic landscape can bring to people living in it. But when natural disaster strikes, whatever its cause, the consequences can be overwhelming to those involved, physically, emotionally, and culturally. Across the continuum of natural and social disasters, from sudden events such as fire and flood, to the longer-term, more gradually unfolding hardship of drought, a variety of community and government responses is required. These range from proactive planning, for example to cope with dwindling water supplies, to emergency disaster responses that can provide immediate relief. How such decisions are made and deciding "who gets what" in the face of such natural disasters or declining natural resources due to climate variability and expanding populations are questions being tackled by governments worldwide (Biermann, 2007).

This thesis is concerned with the perceived fairness and justice of decision-making in natural resource management where solutions that are acceptable to those concerned are difficult to foresee or appear to be unattainable. The general aim of the thesis is to find out how people interpret and react to fairness and justice, or the lack of fairness or justice, in complex societal situations like these. One such area in natural resource management in which solutions can appear to be unforeseeable is that of water allocation. Australia is well known as the driest inhabited continent and water management is a long-standing complex societal problem. Even though Australia is seen from a global perspective as a "leader in innovative water administration" (Howe and Ingram, 2005:48) water management in Australia is still characterised by disagreement and conflict (Mercer *et al.*, 2007; Crase, 2008; Owen and Akerman, 2009). This is despite water issues having been high on the national agenda for decades and the subject of much focused research (Smith, 1998; Hussey and Dovers, 2007; Syme and Nancarrow, 2008). This makes water, as a scarce and important natural resource, a good subject matter for this thesis which aims to understand people's perceptions of the realms of fairness and justice in natural resource management and environmental decision-making. The ebb and flow of water management debates and conflict have matched

rainfall patterns: in times of drought the problem of water shortage is on everyone's lips, but easily forgotten when the rains return (Dovers, 1995; Martin, 2005). However, with extended dry conditions in southeast Australia, the degraded state of many wetlands and ecosystems and the threat of continuing dryness as a result of global warming, there is a renewed national focus on finding lasting solutions.

1.1.2   Scarcity, attitudes and conflicts in water allocation

Although most of Australia's population is concentrated in coastal cities, Australians are generally aware of the impact of climate variability and water shortage on communities in rural and urban settings alike. Images of cracked clay pans, parched wetlands and nearly empty water storage dams and reservoirs have been commonplace in the media (Akerman, 2009). While the Murray–Darling Basin is well known as Australia's most important agricultural area, it is also included on a list of closing or closed river basins, along with the River Jordan in the Middle East and the Indus River in India and Pakistan (Falkenmark and Molden, 2008). Over-allocation of consumptive water use and reduction in stream flows are common symptoms in such basins. Falkenmark and Molden (2008: 213-214) call attention to the "major blind spot in natural resource management" of river basin closure and the common societal response to "buy more time", or to "cover-up some of the symptoms". In July 2009 water storages in the Murray–Darling Basin had dropped to 11% of capacity after nine consecutive dry years (Ryan and Wahlquist, 2009). The critical state of many ecosystems, particularly in the southern area of the Murray–Darling Basin, has generated much rhetoric and conflict between upstream and downstream communities and users (Roberts, 2008; Elks, 2009). Even though state and federal governments agree that water demands in the Murray–Darling Basin now vastly exceed the available supply they have been unable to come to any agreement on a practical plan to address this over-allocation (Matthews, 2009). This is borne out by the constant political finger-pointing between politicians about which governments are perceived to be doing more (or less) to return water to the environment through schemes such as water buybacks and irrigation infrastructure upgrades (ABC News, 2009).

With many cities and rural populations facing critically low water storages, the imposition of water restrictions in towns and cities has brought home the reality of water scarcity and the need for water saving to families across the nation. Governments in major cities such as Sydney, Perth, Adelaide and Melbourne have taken what is perceived to be the easier option to supplement water supplies: to build large-scale infrastructure such as desalination plants rather than attempting to change public attitudes or water-consuming behaviour. However, such projects have also met with public opposition, in part because of their high energy usage and greenhouse gas production (Davidson, 2009). With climate change and strategies to reduce carbon emissions high on the political and public agenda, many believe that more climate friendly alternatives such as storm water harvesting, grey water recycling and household rain water capture should be introduced (Chandler, 2008). These debates are particularly salient in cities such as Adelaide and Melbourne,

which rely for their drinking water on water catchment areas and rivers that have seen significant declines in rainfall and inflows (Fyfe, 2009).

Another consequence arising from differing perspectives about water shortages for urban populations and a greater awareness of the water needs of the environment is a renewed scrutiny of the use of water for irrigated agriculture. Australians are generally aware that irrigated crops such as rice and cotton use significant amounts of extracted water: growing these types of irrigated crops has frequently been vilified in the media as wasteful of a scarce natural resource. But irrigation communities believe that such criticism is frequently uninformed and misdirected (Skuthorp, 2008). In response a recent program, *Water4Food,* has been initiated by Murray Valley irrigation communities to raise awareness of the social and financial impacts of government-organised environmental water buy-backs which irrigation communities consider pose a significant threat to food production (Graham, 2009). In fact the word "irrigators" has developed derisive connotations, as reported by Cawood (2009) in his article "Irrigators are people, too".   Cawood (2009) reflects on the current predicament of irrigators and suggests that society seems to have turned against irrigation as an occupation. He proposes that "politics, the environmental movement and the media need to accord this occupation some dignity" (Cawood, 2009:1/1). Although conflicts about water use are not confined to irrigation, the fact that irrigated agriculture uses close to three-quarters of extracted water in Australia frequently puts irrigation in the spotlight when water shortages come under discussion. Therefore, social attitudes and perceptions are important in understanding and resolving water conflicts in natural resource management.

1.1.3   Towards "fair and equitable" approaches

This thesis recognizes that widely differing positions, interests and attitudes exist within social conflicts: gaining an understanding of these is both necessary and a good starting point for the investigative research in this study. That there are different social perspectives and positions about how resources are shared is also recognized by those involved in finding solutions. For example, phrases such as "fair and equitable" (NSW Government, 2009: 1) and "fairness of outcomes" (National Water Commission, 2008:2) are used to describe the types of approaches and solutions envisioned by governments, agencies and groups. However, the phrases "fair and equitable", "equity and fairness" or "transparent and equitable" are often expressed as *visions* or *goals* rather than as practical statements: exactly what "fair and equitable" means in particular situations is frequently left open to interpretation (Syme *et al.*, 1999; National Water Commission, 2008). The questions can be asked: what do these terms really mean and what is the intent of the organisation in using them? Is the goal really to find fairness and equity in outcomes or is the use of the terms more along the lines of a principle to follow or an aspiration to hope for?

The use of these types of terms in such a vague manner is not restricted to natural resource management.   For example, an Organisation for Economic Co-operation and Development (OECD) working paper examines what is known as the "fair and equitable treatment standard" in

international investment law. This working paper describes how "fair and equitable treatment" is seen as a standard or principle to be attained, but may be interpreted differently in the international law treaties in which it is used (OECD, 2004:2). The paper finds that this standard was left deliberately vague when it was originally created so that it could be used according to the context in which a particular treaty was invoked (OECD, 2004). While it is not the purpose of this thesis to examine precisely what the term "fair and equitable" means, the point here is that notions of fairness and equity are recognized by governments as being of importance in describing outcomes, visions and strategies.

1.2   Fairness in natural resource management

1.2.1   Fairness research: a good start but challenges persist

Although government agencies and practitioners in natural resource management call for fairness in decision-making, and despite there being a substantive body of research on fairness in Australian natural resource management, most would agree that current practice falls well short of the articulated yet still nebulous vision of fair and equitable solutions. Long-time Australian justice researchers Syme and Nancarrow (2008:242) are blunt in their assessment that "fairness is largely ignored despite the development in Australia of techniques to include it in a transparent fashion". Indeed, Syme and Nancarrow (2005, 2008) have spearheaded fairness research in natural resource management in Australia, publishing regularly and widely over the last two decades. Their focus has largely been on water management and their research at the outset was specifically targeted at establishing what people in communities understood by the term "equity" (Syme *et al.*, 1999:53). In a decade-long research programme Syme and Nancarrow led a series of studies which used social psychological theories of justice to investigate fairness in decision-making processes and outcomes. The research was concerned, in part, with what they describe as a central hypothesis from social psychology justice research whereby a decision-making process that is perceived to be fair by those involved is likely to result in their acceptance of the outcome (Syme *et al.*, 1999:53). This relationship between decision-making processes and outcomes is a key area of investigation in this thesis.

The study programme led by Syme and Nancarrow concluded that "[f]air decision-making processes are of paramount importance to community acceptance of water allocation decisions" and that people involved in such processes utilise a range of fairness criteria in determining their fairness judgements (Syme *et al.*, 1999:67). The fairness criteria explored in their research included personal beliefs or philosophical positions about how water should be used and shared. For example, their research showed that there was strong support for water rights to be assigned to the environment, that water-trading and water markets were largely not perceived as fair approaches in water allocation whereas efficiency of use was important in fairness considerations (Syme *et al.*, 1999:67).

The research undertaken by Syme and Nancarrow and their colleagues is important because it has incorporated justice research from social psychology and has made a good start for fairness research in natural resource management. Their research has established that fairness in natural resource management is important and that people have well-developed ideas about fairness and justice in relation to the allocation of resources. But they also recognize that there are significant challenges that impede implementation of the findings of justice research and the incorporation of fairness principles into decision-making processes (Nancarrow and Syme, 2001; Syme and Nancarrow, 2008). These challenges include the issue of perceived self-interest whereby suspicions about self-interest motivations can be pervasive and obstructive in fairness discussions; the need for people to be able to interact and co-operate in the development of fairness solutions and the extent to which decision-makers will adopt such solutions; and the relatively low profile of justice-based research (Nancarrow and Syme, 2001).

Recognition of the importance of fairness in natural resource management has also been established in several other recent studies (for example, Lawrence *et al*., 1997; Lauber and Knuth, 1999; Hunt and Haider, 2001; Smith and McDonough, 2001; Maguire and Lind, 2003). These studies have contributed empirically to the body of research which explores fairness and justice in natural resource management decision-making. Smith and McDonough (2001) investigated people's evaluation of public participation experiences to explore how people think about fairness in relation to natural resource decision-making. The context was an Ecosystem Management Project in the state of Michigan in the USA, in which the participation took the form of numerous focus groups (Smith and McDonough, 2001:242). Their research found a similarity between justice principles from the literature and participation elements that focus group attendees felt were important in achieving fairness in natural resource decision-making. Smith and McDonough (2001) concluded that including fairness principles in public participation techniques would provide many benefits but that considerable organisational change on the part of decision-making agencies would be required. These changes included larger budgets, different attitudes and enhanced skill sets.

A more recent study from Europe demonstrated the importance of fair treatment in public participation processes (Hophmayer-Tokich and Krozer, 2008). This study investigated public participation in water management in six countries bordering the North Sea. The research found that better decisions could be achieved by incorporating a range of perspectives and viewpoints in defining the problems that needed to be addressed. In addition, greater acceptance of the plans could be achieved because concerns voiced by participants could be addressed. The authors concluded that public participation increased support for the plans and also that "people are willing to co-operate if they sense that they are being treated fairly" (Hophmayer-Tokich and Krozer, 2008: 255).

Taken together these studies show that fairness in the way people are treated, fairness in participation processes, and fairness in how decisions are made, are relevant and important in determining the acceptance of outcomes and in developing outcomes that are perceived as fair. However, despite this body of knowledge that connects fairness principles with good practice in participation processes, there are still many examples of conflict in natural resource management (Lachapelle *et al.*, 2003). Social protests and disputes are evidence of social dissatisfaction with a range of aspects of natural resource management such as the siting of wind farms, vegetation clearing and water allocation (Delli Priscoli, 2004; Devine-Wright, 2005; Ruelas-Monjardin *et al.*, 2009). Yet there has been relatively little empirical research that investigates justice concerns in current societal conflicts (Müller *et al.*, 2008). In one such study of an urban-planning conflict, Müller *et al.*, (2008) found that fairness within a process was an important consideration and that prior research explanations of conflict as being largely centred on self-interest were misleading. Mikula and Wenzel (2000:127) observe that the theoretical relationship between justice and conflict has received little research attention: they suggest that there are different "functions of justice" at different stages of a conflict.

This study sets out to explore the realm of fairness and justice in natural resource management from first principles, both empirically and from a theoretical standpoint. This is achieved, first, by adopting the starting point of societal conflict in which no assumptions are made about fairness or justice within the dispute, and second, by developing a theoretical framework that includes a broad range of justice theories in the research approach. Societal conflict in natural resource management is placed at the centre of this investigation through two case studies in which there were active disagreements about water distribution decisions. This research also explores some gaps and areas needing clarification in the justice literature (discussed in Section 1.3 below and in Chapters 2 and 10). An important and ongoing central question in justice research concerns the relationship between fair processes and the acceptance of outcomes: *why* is it the case that fair procedures lead to greater acceptance of outcomes? Although it has been firmly established that the fairness of procedures is important in gaining outcome acceptance, the *reasons* for this are less clear (Chapter 2). This is the second aim of the research: to find out how people perceive fairness and justice within the social context of a decision-making process and how these perceptions contribute to their *acceptance* of an outcome. By exploring societal conflicts in which people have different interests and perspectives that lead to disagreements about decisions or outcomes, a logical third aim of the research is to find out how *better* outcomes can be achieved.

1.2.2   Self-interest and public involvement in decision-making processes

The notion of self-interest, or selfish behaviour, is an important consideration in the sharing of resources. Self-interest is one reason that is often put forward to explain local opposition to proposals by governments for new infrastructure developments such as roads, housing and energy generation (Wolsink, 2007; Müller *et al.*, 2008). The derogatory label "NIMBY" (Not in My Backyard) is used, for example, by planners and developers whose aim is to denigrate such

communities as being selfish, to describe the opposition (Syme and Nancarrow, 2005 and 2008). Thus the notion of self-interest is important because, while self-interest is a valid motivation for individual behaviour, for example to protect one's livelihood (Montada, 2003), it has also become an "entrenched culture" (Syme and Nancarrow, 2008:238). NIMBYism and self-interest are frequently used as broad-brush explanations for individual or community behaviour within a resource allocation process or conflict but these labels gloss over other more socially-oriented motivations (Nancarrow *et al.*, 2002; Wolsink and Devilee, 2009). This use of self-interest as an overall explanation for local opposition to a proposal is one reason why the involvement of local communities in planning processes can be seen as problematic. For example, community groups that are apparently motivated by self-interest with specific ideas about what outcomes they desire can be perceived as being more difficult to deal with than those that wish to engage in seeking outcomes that are acceptable to a range of interest groups (Stenekes, 2008). Thus even though it is generally recognized by federal, state and local government agencies that public involvement in policy-making and local decision-making is an important aspect of planning (for example, as part of the democratic process as well as achieving buy-in and tapping into local knowledge) there are nevertheless significant challenges (Bishop and Davis, 2002; Dovers, 2005a). These range from the degree to which decision-making can be influenced by community input (for example, if the decision is already made by the authorities then in reality consultation is little more than the provision of information) to practical issues such as the extra time, resources and skilled facilitation required to conduct meetings and resolve issues raised during the process (Buchy and Race, 2001; Stenekes, 2008). This notion of self-interest and how it is perceived within communities and by onlookers or planning authorities is another aspect of this investigative research.

1.2.3   Consultation processes and perceptions of fairness and justice

In response to differing circumstances and challenges that planning authorities and communities have faced in developing workable participation strategies, many different types of participation have emerged with varying levels of public involvement. These levels range from minimal public involvement to structured community consultation through to government–community partnerships (Ross *et al.*, 2002; Aslin and Brown, 2004; Dovers, 2005a). However, this thesis is not concerned with types of public involvement or the nature of community consultation *per se*. Rather, it is concerned with people's perceptions of fairness and justice within decision-making processes in which individual or public involvement *may* or may *not* have taken place or be *perceived* to have taken place. This research investigates decision-making processes and outcomes from the participant's perspective in terms of whether the participant perceives these as fair and just. The starting point for the research is how individuals conceptualise and experience *fairness* and *justice* within such processes: the research is *not* concerned with an investigation of the specific details and events of the participation or consultation process itself, nor with the benefits and challenges of participation. Rather, gaining an understanding of fairness and justice perceptions within decision-making processes can show *why* participation or consultation—to a

lesser or greater degree—is *important* to those individuals and communities with an interest in the process and outcome.

In other words, this research takes a *broader* view of a decision-making process than an enquiry that is concerned with exploring aspects of public participation or consultation: it aims to develop an understanding of fairness and justice principles by which individuals perceive a decision-making process or outcome to be acceptable, whether this includes participation or not. The research extends outwards from those impacted by a decision to onlookers and bystanders in communities who may not be directly impacted themselves but may be neutral observers or supporters on either side of the decision. Thus this research also looks outside the immediate and direct impacts of those concerned about a resource conflict to consider the indirect impacts on the well-being of the community as a whole. This is the domain of justice at a societal level. This is a good point in the thesis at which to introduce John Rawls, whose major work *A Theory of Justice* was instrumental in bringing justice to the foreground of debate and discourse about how societies are organised (Rawls, 1971).

1.3   *This study: justice in natural resource management*

> [A]lthough a society is a cooperative venture for mutual advantage, it is typically marked by a conflict as well as by an identity of interests ... There is a conflict of interests since persons are not indifferent as to how the greater benefits produced by their collaboration are distributed, for in order to pursue their ends they each prefer a larger to a lesser share. A set of principles is required for choosing among the various social arrangements which determine this division … These principles are the principles of social justice: they provide a way of assigning rights and duties in the basic institutions of society and they define the appropriate distribution of the benefits and burdens of social cooperation. (Rawls, 1971:4)

1.3.1   Investigating natural resource sharing through a justice lens

In the quotation above Rawls succinctly articulates the vision, the problems, the means and the ends which bring together the notions and concepts of injustice and social justice. The central problem that Rawls describes is one of sharing benefits and burdens within a co-operative society. It is an apt quotation to include in this introductory chapter because this thesis is also concerned with the sharing and distribution of natural resources at a societal level: how can resources be shared and allocated in ways that are perceived as fair and just? Rawls' description hits the mark because it encapsulates why we need a theory of justice: to address the problem of sharing benefits and burdens while still maintaining social co-operation. While this study is firmly located in natural resource management and the problems associated with sharing and allocating natural resources, this is also the domain of justice. Recognizing the contribution that justice can make from a theoretical standpoint, this study takes a justice-based research approach to investigate diverging views about resource sharing within social conflicts. Thus, this study is not only concerned with fairness and justice in natural resource management, it also becomes a study of

justice itself (Chapters 2 and 10). In this thesis, the empirical data gathered during the practical part of the research enquiry meets theories of justice gathered during the theoretical investigation: where there is a connection between theory and data new insights into complex social problems emerge and theories can be further refined and developed. This research approach, described in Chapter 3, is based on adaptive theory (Layder, 1998) and is a continuous cycling process maintained throughout the study.

1.3.2   Developing a methodology: a justice-based research approach

This study originates in an earlier research project in which conflict over a proposed wind farm was investigated using a justice-based approach (Gross, 2007). The driving question behind that research was why a proposed wind farm—in theory a public good—should generate intense opposition and result in social conflict and a divided and unhappy community. The study found not only that a fairer process was important in gaining acceptance of the decision but also that a justice-based approach provided richness and depth in understanding the issues underlying the conflict. This thesis builds on the research approach from that study. It also acknowledges the understanding gained from that research approach of the importance of conceptual clarity in distinguishing between justice constructs and how fairness and justice are directly or indirectly assessed or measured (Chapter 2). For example, a nagging question in my mind was how to establish that events in a decision-making process are relevant to or connected to people's thoughts about fairness and justice in a decision-making process. This is why I decided to start from first principles in this research. The notions of fairness and justice take centre stage in the initial data-gathering interviews in the case studies.

Thus the contribution that a justice-based research approach could bring to investigating societal conflicts over natural resources was already established: the approach produced results which in turn indicated how well the approach worked. However, it needed further development and articulation. Social conflicts and disputes are context-dependent and have many roots in a variety of social and institutional relationships and arrangements. The situation is constantly shifting as events unfold. Research investigations require a methodological approach which takes this shifting contextual complexity into account and can integrate knowledge from various sources, including the local conflict and theories and research outcomes from related areas. Transdisciplinary and integrative research approaches are still relatively new in academic research and lie outside traditional lines of research in environmental management (Wickson *et al.*, 2006; Mollinga, 2009). Such a research approach is therefore worthy of consideration as a contribution to justice research in its own right (Biermann, 2007). Therefore a fourth aim of the research is to develop a justice-based research approach to investigate issues and conflicts concerning the allocation of natural resources. The justice-based research approach developed in this thesis has been peer-reviewed and published (Gross, 2008). Finally, a fifth aim also arose from the earlier

study in which a community fairness framework had been developed as an analytical tool (Gross, 2007), that is, to develop justice-based analytical tools for proactive planning.

1.3.3   The case studies

Two case studies were chosen to investigate perceptions of fairness and justice within the social context of the decision-making process. The first case study takes place in the state of New South Wales (NSW) in Australia (Chapter 5). The case study centres on the town of Deniliquin which is the hub of a rural community in the Murray Irrigation District that depends upon irrigation water for its major social and economic well-being. In October 2006 the NSW government unexpectedly cut the water allocation during an extended period of drought. The irrigation community was taken by surprise. Irrigators had been led to believe that this water allocation was secure for two main reasons. First, this water allocation was part of a specifically developed and recognized risk management strategy and second, because it was carried over from the previous year's water allocation, so in theory the water should be available. A further cut to the water allocation took place in November of the same year. Irrigators and members of the community voiced their protest over these cutbacks by attending a rally in the town of Deniliquin on December 15, 2006. This case study was chosen because it was clear from the relatively large number of protesters that this was a current and important issue to the local community: the protest had been reported in the *Sydney Morning Herald*, a metropolitan newspaper, with the catching headline "Water thieves leave farmers parched" (Lewis, 2006). A second reason was that this was a direct protest over a water allocation decision that was clearly perceived as unacceptable to many in the community.

The second case study takes place in the Australian state of Victoria (Chapter 6). In 2007 that state government proposed a 75 km pipeline, which became known as the North South Pipeline, to take water from the state's north to the south for use by people in the capital, Melbourne. The rationale was that Melbourne could run out of water by 2010 if drought conditions persisted. This water diversion was part of a larger government project which would fund major upgrades to reduce water losses in Victoria's ageing irrigation infrastructure in the northern area of the state. This was known as the Food Bowl Modernisation Project. In return a trade-off arrangement would share the saved water three ways: a third for Melbourne, a third for irrigators and a third for the environment. However, the project generated significant opposition. A grassroots protest movement, known as Plug the Pipe, raised objections, not only to the pipeline, but also to the rationale on which the whole project was based. Protest rallies were held in 2008 in rural towns and in Melbourne. This case study was chosen for similar reasons to the NSW study. First, there was an active and highly-charged groundswell of opposition that generated heated accusations between groups on either side. A metropolitan newspaper article titled "Pipeline opponents 'quasi-terrorists' " described an episode in which insults were traded in a Victorian Parliamentary debate (Rood, 2007). Second, there was a complicated set of water distribution issues underlying the trade-off deal with significant implications for rural–urban water redistribution.

1.3.4 Aims of the thesis

The individual aims of this research have been introduced and described throughout this chapter. The aims of this research are summarized:

1. To find out how people interpret and react to fairness and justice, or the lack of fairness or justice, in environmental decision-making

2. To find out how people perceive fairness and justice within the social context of a decision-making process and how these perceptions contribute to their acceptance of an outcome

3. To find out how better outcomes can be achieved

4. To develop a justice-based research approach to investigate issues and conflicts concerning the allocation of natural resources

5. To develop justice-based analytical tools for proactive planning

1.3.5 Thesis outline

This thesis comprises 10 chapters: the structure and chapter titles are illustrated in Figure 1.1. Following this introductory chapter the second chapter broadly reviews concepts and theories of justice to set out the theoretical context of the research. While acknowledging that the justice landscape is vast, the chapter aims to highlight justice constructs, distinctions and themes that are relevant to the themes explored in this study. The second chapter also includes a review of current dilemmas facing justice researchers, such as acknowledged gaps in justice research and difficulties in distinguishing between justice constructs.

Water Under the Bridge: fairness and justice in environmental decision making

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chapter 1:  Searching for fair and equitable solutions
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Figure 1.1 Thesis structure

Chapter 3 introduces the methodological approach developed for this research. The transdisciplinary research methodology described in this chapter sets out the advantages of a holistic and adaptive research approach that transcends disciplinary boundaries. This forms the basis of the adaptive approach in which theoretical justice constructs are used as a starting point to the empirical data collection and analysis and which forms an investigative justice research framework. The chapter also includes details on the research methods used in the case studies and how the empirical data was analysed.

Having described the research problem area, theoretical context and transdisciplinary research approach the next three chapters are directly concerned with the empirical part of the research. The fourth chapter sets out the context of water in Australia by providing a historical background to the development of water management in Australia, with a particular focus on NSW and Victoria. Institutional arrangements concerning irrigation in these two states are described. These include a description of recent reform policies and some consequences perceived by the irrigation

communities.   Chapters 5 and 6 introduce the NSW case study and Victorian case study, respectively.   These two chapters draw solely on the empirical data gathered during the interviewing to provide interviewee perspectives of the social conflicts.

The following three chapters, 7, 8 and 9, are concerned with data analysis. Chapter 7 explores notions of justice and fairness at an individual level: first how individuals conceptualise fairness and justice in the abstract and then how they perceive fairness and justice in a social conflict. The chapter includes an investigation into why people engage in issues of justice and their underlying motivations for seeking justice. Chapter 8 then considers the broader perspectives of fairness and justice in decision-making processes and outcomes at a community level, while still drawing on individual perceptions. This chapter explores how perceptions of fairness and justice in decision-making processes contribute to gaining greater acceptance of outcomes, and how better outcomes can be achieved. The analysis in Chapter 9 looks at societal themes that emerged from the empirical data. The chapter focuses on aspects of water management in Australian agriculture, centred on irrigation, in which societal tensions and differing perspectives about water use are explored. Fairness and justice themes in this context of water as a scarce natural resource are discussed.

Finally, Chapter 10 provides a synthesis of the thesis' research findings and shows how the research aims have been addressed. The chapter shows how this research contributes to the justice literature and how the research findings can be practically applied in natural resource management. It also discusses ways in which this research can contribute at a societal level, by recognizing that justice is a means as well as an end, and that a theory of justice should be invoked in the quest for fair and equitable solutions.

Chapter 2: Theories of Justice

Lake Hume, River Murray, February 2007

(Photo: Catherine Gross)

As introduced in Chapter 1, this research investigates perceptions of fairness and justice in the sharing and allocation of natural resources. The distribution of resources is clearly a central domain of justice theory which has for centuries been concerned with individual rights, societal organization and how material goods should be distributed (Hudson, 2003). This chapter looks at how a range of disciplines concerned with justice theories have dealt with justice and fairness. The first section reviews a selection of descriptions and definitions of justice: these include justice as it relates to the law, justice in terms of the organization of society and justice in terms of the distribution of material goods. The second section reviews justice constructs and models related to processes, outcomes and interpersonal treatment. In the third section the review turns to justice from an individual perspective and why people care about justice, their constructions of justice and fairness and the interaction between processes and outcomes in determining their justice judgements. In the fourth section the discussion turns to the concept of injustice and reviews distinctions between the concepts of injustice and justice. Research into the experience of injustice is also reviewed. The fifth section discusses the current status of justice research and reflects on general areas in which distinctions are required, such as between the terms fairness and justice. The chapter concludes with a brief discussion of why theories of justice are important. As this review shows, the subject matter of justice research is vast and evolving in many directions. My aim here is to set the justice framework for this research by providing a broad overview of theories of justice and selecting specific constructs that are relevant to this research. I also highlight some relevant points of contention and areas that need further clarification.

2.1   *What is justice?*

> All I would suggest is that justice is not something you can see. It is not temporal but eternal. How does a man know what is justice? It is not the product of his intellect but of his spirit. The nearest we can get to defining justice is to say that it is what the right-minded members of the community—those who have the right spirit within them—believe to be fair. (Denning, 1955: 4)

The meaning of the term justice has been debated for centuries. Scholars, philosophers and ordinary folk alike have debated and described their view of what justice means to them. Justice has been seen as both subjective and objective: it can be perceived and it can be stated as absolute. There is little wonder that definitions and descriptions abound. So how do people define justice? This review starts with Sir Alfred Denning's perspectives on justice. Denning's description of justice in the quotation above reflects what he perceives as a general difficulty in coming up with a solid and unambiguous definition. For Denning, justice is more about the "spirit" than the "intellect", and justice is also about people deciding what is "fair" (Denning, 1955:4). In his book *The Road to Justice,* Denning clearly distinguishes between the law and

justice, arguing that the law can be "inadequate for the needs of today" and that lawyers have an obligation to see that justice is done (Denning, 1955:6). He suggests that on the "road to justice" there are two "great objects to be achieved: one is to see that the laws are just: the other that they are justly administered" (Denning, 1955:6). For Denning, adhering to the letter of the law can lead to an injustice being done and lawyers should therefore not assume that the law is an end in itself. He argues that the reason why people obey the law is because they have an obligation to obey the law but in turn, "the law must correspond with what they consider to be right and just…[i]n other words, it must correspond, as near as may be, with justice" (Denning, 1955:3). Denning thus leaves us in no doubt as to his position on lawyers, justice and the law: law should deliver justice and lawyers should do what is "right" to ensure that justice is done. To Denning, impartiality in interpreting and dealing with the law is not enough: "you can be impartial in distributing injustice as well as justice" (Denning, 1955:5).

2.1.1   Distinguishing between justice theories

I have chosen Denning's reflections on justice to open this review of justice theories because he acknowledges the difficulty in defining justice and explaining what it means in everyday life. This makes his perspective a good starting point because current conceptions of justice are wide-ranging, and, as this review shows, justice constructs and the overall concept itself are still being actively explored with many theories considered inadequate (Schlosberg, 2004), lacking conceptual clarity (Greenberg, 2001b) and inward-looking (Ambrose and Arnaud, 2005). Denning (1955), as outlined above, talks about justice in simple terms: justice in relation to the law; justice as what is fair or right, and that injustice can arise when justice is not done. He clearly equates justice with what is right, implying that a deliberate process is required to ensure that the law also delivers justice. These conceptions of justice and injustice, fairness and doing what is right are key themes within this research. How they connect and relate to each other are important considerations that are explored in this chapter. However, Denning's description of justice, with its roots in jurisprudence or the theory of law, is clearly closer to the law than are other conceptions of justice which arise from so-called liberal justice theory (Wissenburg, 1999) or philosophical deliberations that are concerned with notions of an ideal society (Miller, 1999).

Many authors writing about justice also strive to distinguish exactly what they mean by justice. For example, Wissenburg (1999) starts out by making the distinction between "*moral* justice, the normative or evaluative concept, and *legal* justice, which is more or less synonymous with positive law" (Wissenburg, 1999:19 emphasis in original). This distinction may be useful here because this research looks at the normative rather than legal aspects of justice. What is also relevant is how many distinctions can be made between justice concepts, such as between these different types of justice. Related concepts that are discussed in this review include distributive justice, procedural justice and interactional justice, fairness and

justice, and injustice and justice. Other distinctions that will be made include proactive justice and reactive justice which relate to proactive justice planning, for example in resource allocation, and reactive justice evaluations, for example where groups or communities are dissatisfied with such allocations (Section 2.5).

2.1.2   Society, distributive justice and fairness

Whether justice is a quality that is displayed by individuals in the way they go about their business and treat fellow individuals or whether it is more about how society itself is organised are also different strands of the justice debate. Wissenburg (1999) in his quest for a concept of social justice compares the theories of Aristotle (1959), Nozick (1974) and Rawls (1971) that respectively accord the primary property of justice to the individual, to social interactions between individuals and to the structure of society. Although there are many differing approaches to justice Wissenburg (1999:21) suggests that modern conceptions of social justice have been concerned with two main aspects: distributive justice and impartiality. Distributive justice is concerned with how goods are distributed in society and impartiality is concerned with lack of bias on the part of the distributor or decision-maker (Wissenburg, 1999). In his seminal text *A Theory of Justice*, which reinvigorated the justice debate in the latter part of the 20th century, Rawls (1971) connected these two concepts by suggesting that a so-called veil of ignorance can be invoked in the interests of impartiality and fairness in order to distribute social goods in a way that could be perceived as fair. Rawls (2001: 5) in his later book *Justice as Fairness* proposes that "the idea of society as a fair system of social co-operation" can be "regulated by a public conception of justice". Rawls (2001) outlines three points for his conception of a well-ordered society: first that such a society is based on the common knowledge and agreement of a conception of justice; second that a society's political and social institutions conform to that conception of justice; and finally that citizens understand and apply these principles of justice (Rawls, 2001: 8,9). While Rawls (2001:11) clarifies that his theory of justice is a political, not a moral or general conception of justice, it is clear that he recognizes the important role of individuals and the notion of fairness within his basic structure of society.

Theories of justice in which distributive justice is the primary organising idea of justice, such as that advocated by Rawls (1971), have been criticised as being too narrow in scope (Fraser, 2001; Schlosberg, 2004). Schlosberg (2004:518) describes his conception of justice as including three specific elements: "recognition, distribution and participation". These are "three interlinking, overlapping circles of concern", in which the notion of cultural recognition is not incorporated or "subsumed" into a theory of distribution (Schlosberg, 2004:521). He argues that the notion of recognition has been neglected and that justice should be a balance of these three elements (Schlosberg, 2004:522). The notion of recognition includes respectful treatment of individuals and the importance of dignity as a condition in a just society (Honneth, 2001). Honneth (2001:48) suggests that "moral injury" and perceptions of injustice arising from a lack

of recognition is a "starting-point" for a concept of recognition. Whether recognition is an issue of justice or of ethics is discussed by Fraser (2001). She argues that it is clearly an issue of justice, in part because repeated "patterns of disrespect" can "impede parity of participation, just as surely as do distributed inequities" (Fraser, 2001:27). Thus it can be seen that to some theorists matters of *distribution* are uppermost, whereas to others matters of *process* and *recognition* or interpersonal treatment have equal weight with distribution. While Schlosberg (2004) is mainly concerned with environmental justice and recognition as an aspect of environmental justice, his call for a three-dimensional justice approach resonates strongly with recent theorising in the justice domain of social psychology (discussed below in Section 2.2).

While Miller (1999:1) acknowledges that social justice is to a large degree concerned with distribution, such as how "the good and bad things in life" are distributed, his conception of justice includes the social context in which the question of justice is raised. To this end he argues that people must understand their relationships with others and describes three theoretical types of community relationships in his pluralistic approach. These are first a "solidaristic community" where people share a common identity, such as in a village community or kibbutz; second, "instrumental association" where people collaborate together in the pursuit of their individual goals, such as in a government department or company; and third, "citizenship" such as in membership of a society (Miller, 1999:26). Miller's focus is on distributive justice and the three principles of distributive justice which he identifies as need, desert and equality. Miller's proposal here is that for each of these types of community one of these three principles will apply as the substantive principle of distribution. In a solidaristic community the primary principle of distribution is to distribute according to need; in an instrumental association the principle is distribution according to desert or contribution and in citizenship the principle of distribution is equality, recognizing the equal status of citizens. Justice researchers frequently refer to these three principles of distributive justice, but the principle of desert described here by Miller is also commonly referred to as the principle of equity in which allocation is according to merit or input (Montada, 2003; Fortin, 2008).

In setting out these three structures with their associated justice principles Miller (1999) is showing that different situations require different principles of distribution, which is a reflection of the dilemmas faced in current-day societies. In such dilemmas or conflicts guidance is required for decision-making. However, Miller (1999: 32) also recognizes a degree of circularity in that the type of societal structure is often related closely to the type of distributive principle, and perhaps derived from it. Miller's theory of justice is relevant here in that he argues that not only should a theory be pluralistic, but also that people *do* reflect this plurality in society by weighing up these different ways of making allocations in everyday life and in deciding which principles should be chosen in different contexts.

2.1.3   Theories of justice and empirical research: a gap or a partnership?

That there is a disconnection between justice theorists, such as political philosophers, and empirical researchers, such as social psychologists, is acknowledged by both Miller (1999) and Wissenburg (1999). The latter comments that "philosophers of justice hardly ever use data from empirical research" and that "empirical scientists… seldom or never use philosophical material" (Wissenburg, 1999:25). Miller (1999) devotes a chapter to this conundrum and argues that these two areas are "interdependent": he proposes that theories need testing empirically and that empirical research into justice needs theories to help distinguish what are genuine justice issues. He asks the question "how do empirical researchers know that the object of their research is indeed some aspect of justice" (Miller, 1999:43). Miller also questions whether some social psychology experiments or research based on surveys can really get to the heart of justice beliefs or are they clouded by other allocation issues, such as self-interest or simplicity of implementation. For example, one of his concerns is that some responses may be value-based rather than justice-based. While Miller (1999: 48) acknowledges that this may be perceived as nit-picking over "fine distinctions" he argues that these are important distinctions: understanding the type of justice principle underlying the justice judgement is important in determining how people react, such as when circumstances change. He suggests that theory and empirical research can work together by drawing distinctions and confirming theories. Having considered the role of distributive justice and the principles of distributive justice in theories of justice, this chapter now turns to another area that has received much research attention: procedural justice.

2.2   *Outcomes, processes and interpersonal treatment*

> Justice is not just a set of principles derived from objective sources…[i]t is also an idea that exists within the minds of all individuals. This subjective sense of what is right or wrong is the focus of the psychology of justice. (Tyler *et al.*, 1997:4)

2.2.1   Procedural justice and distributive justice

Procedural justice, concerned with the perceived fairness of decision-making processes, has been researched by social psychologists since the mid-1970s (Colquitt *et al.*, 2001). Researchers of that period realised that it was not only distributive justice, or outcomes, that were important to people: it was also the processes by which those outcomes came about. This was a departure from the dominant distributive justice paradigm of the time. As indicated in the quotation above, social psychologists take the research approach that justice arises from an individual's subjective evaluation of what is fair or just (Tyler *et al.*, 1997). Fair decision-making processes have been shown to have a positive effect on the acceptance of outcomes (Tyler, 2000; Greenberg, 2001a). Further, some social psychologists claim that processes are *more* important to people than outcomes in their evaluations of what is fair (Lind and Tyler,

1988; and see Skitka *et al.*, 2003). Procedural justice involves several criteria that together constitute the fairness of processes. These criteria include such items as the ability to participate in the process and be heard (voice); receiving adequate and accurate information; the trustworthiness and neutrality of decision-making authorities; the ability to raise issues and have these responded to; and being treated with respect and dignity (Tyler, 2000; Colquitt 2001).

Lind and Tyler (1988), in the introductory pages of their seminal book on procedural justice *The Social Psychology of Procedural Justice*, provide an empirically-based illustration to show why procedural justice is an important area. Their vignette centres on a court case in which a woman has been charged with a traffic infringement and where she is accused of making an illegal turn. She had brought photographs to show as evidence that her infringement was the result of a sign that was not, in her opinion, clearly visible to motorists. However, her case was dismissed without a hearing: she was free to go. As Lind and Tyler point out, this was a victory, so why was she angry about the outcome? The explanation given by Lind and Tyler (1988:2) is that "the woman felt angry because the outcome she received was not arrived at using a procedure that met her standards of a proper judicial process". Their explanation for the source of her anger was that a proper process had not been followed, not that she was dissatisfied with the outcome. Lind and Tyler use this example to show why research that focuses on process-based models is necessary.

2.2.2 The fair process effect and construct distinctiveness

Many justice researchers have focused their research on developing an understanding of the relationship and interactions between the two constructs, procedural justice and distributive justice, and have enthusiastically investigated which one has greater influence on fairness evaluations in differing circumstances. Their research findings have generated much debate. A key question has been which one of these process or outcome dimensions has a stronger effect or matters more when, for example, the outcome is negative (Lind, 2001a). Empirical studies have shown that people are more satisfied with outcomes if the decision-making process is perceived to be fair, for example, if they have been given an opportunity to have their say (Fortin, 2008). Further, people will accept outcomes that have a negative impact on them if they perceive that the process has been fair. Researchers identify this as the "fair process effect" (Skitka *et al.*, 2003:310; MacCoun, 2005; Brockner *et al.*, 2007).

However, Greenberg (2001a) advises caution in how the fair process effect is approached. He suggests that the fair process effect is greater, or fair procedures matter more, in situations when the outcome is negative because, where an outcome is positive, participants are less concerned about fairness of procedures. A second caution is that there must be sincerity in the way procedures are conducted by the decision-maker: if there is perceived insincerity then there is a risk of the "frustration effect" taking place and lower acceptance of outcomes by participants (Greenberg, 2001a:257). A further caution is described by Skitka *et al.* (2003).

They point out that there is a difference between the perceived fairness of an outcome and the degree to which the outcome is perceived as favourable. *Outcome fairness* relates to whether an outcome is considered fair against some societal norm or standard whereas *outcome favourability* confers a positive result on an individual or group with an interest in the outcome. Skitka *et al.* (2003) suggest that researchers have tended to conflate these two constructs or have used them interchangeably in studies that compare procedural justice and distributive justice effects.

This review of the fair process effect and outcome constructs introduces an important point in justice research: that making distinctions between justice constructs is critical, particularly in attempting to differentiate between the effects of one type of justice versus another. As this section has shown, empirical approaches to justice research are complex and evolving. Several reviews of the status of justice research in this first decade of the 21st century trace the multiple paths taken by researchers and the evolution of justice models, terms and constructs (Cohen-Charash and Spector, 2001; Colquitt *et al.,* 2001; Cropanzano *et al.*, 2001). Some refer to this as a research maze and draw attention to the different directions and positions taken by researchers which have resulted in heated discussions or debates (for example, Bies, 2005; Fortin, 2008).

Other reviews, including introductory journal sections, are more concerned with presenting a simpler overview of the status of justice research, including recent shifts in thinking. These types of review are often structured around central research questions, such as why people care about justice, and the current status of models and justice construct debates (Ambrose, 2002; Skitka and Crosby, 2003; Fortin, 2008). Much of this research takes place within the field known as organizational justice. As Ambrose (2002) points out, justice research in social psychology moved into the organizational sciences from which point the field of organizational justice was established. While the current status (including some gaps and anomalies) of justice research is dealt with more fully towards the end of this chapter (Section 2.5), it is worthwhile at this point to introduce some further conceptual debates.

2.2.3 The 2, 3 and 4- factor models of justice: introducing interactional justice

Just as research shifted from a focus on distributive justice to procedural justice, another later shift took place to include the interpersonal aspects of procedures. For example, the value perceived by participants in being able to take part in a decision-making process and express their voice had already been shown to be important in early research and these were included in the principles of procedural justice (Tyler and Blader, 2003). Other relevant interpersonal matters included respectful treatment, such as whether people's issues were listened to by decision-making authorities. Research into interpersonal treatment showed that the quality of such treatment was important in people's perception of their "standing" or their "status

recognition" and this was seen as distinct from other fairness criteria of a decision-making process (Tyler and Blader, 2003: 351). Some researchers were of the opinion that such matters of interpersonal treatment were important and distinct enough to be identified in a separate justice construct, thus the construct *interactional justice* was introduced, but not without disagreement (Cropanzano *et al.*, 2001). This three-factor model of justice, in which interactional justice became a construct distinct from procedural justice, itself distinct from outcome justice, was introduced in the 1980s by Bies (2001). Bies (2001:90) describes the roots of this rather controversial proposal as originating in the notion of interactional *in*justice "the truth is that… when people talk about justice, their narratives are in terms of the injustices they experience". He goes on to describe the harm to "one's psyche and identity" and suggests that the human aspect of harm is "underemphasised and underappreciated in organizational justice theory" (Bies, 2001:90).

Bies (2005) strongly defends the validity and the conceptual distinctiveness of interactional justice. There are many elements to this defence, not least of which is that the way people are treated may be quite separate from a decision-making process, which is a central part of procedural justice. This means that interactional justice can stand on its own, outside a process concerned with a decision or an allocation (Bies, 2005). Bies (2005:101) describes this as "justice as encounter versus justice as exchange", whereby the exchange context is concerned with specific decisions or allocations. The encounter context is more of a separate every-day occurrence where people may be concerned with "abusive bosses, broken promises, disclosure of confidences and secrets… [and] insults" which are viewed by the receiver as "*harmful* and *wrong*, the bases for feeling unjustly treated" (Bies, 2005:101, emphasis in original). In concluding his defence of interactional justice as a separate construct, Bies returns to injustice as his starting point and draws attention to the distinction between the constructs injustice and justice. He suggests that there is a difference between interactional *justice* and interactional *injustice*, as there is between justice and injustice, and that these should be methodologically distinguished in empirical studies (Bies, 2005).

Finally, in this discussion of models of justice, a further complicating factor has been the recommendation that interactional justice itself should be further separated into two components: informational justice and interpersonal justice. This was suggested in the 1990s to distinguish between "respect and sensitivity aspects" of interactional justice and the "explanation aspect" concerned with the provision of information about a procedure or outcome (Colquitt, 2001:387). In a review of the different models, Colquitt (2001) found support for this four-factor model of justice. However, as discussed later in this chapter (Section 2.5), the current wave of what is described as integrative, global or overall justice research seems to have moved the discussion forward and away from this deliberation over construct delineation (Ambrose and Schminke, 2009; Fortin, 2008). The observations of Greenberg (2001a) in the

following quotation summarise the predicament of justice research at the time and to a certain extent foreshadow a continuing legacy of confusion:

> The field of organizational justice is at a crossroads. If it turns one direction, it can become a truly mature field—one that promises to provide important insight into organizational theory and practice. But, if it turns the other way, it runs the risk of choking in its own confusion and disappearing into oblivion, leaving in its wake a set of interesting ideas whose value was never completely realised. (Greenberg, 2001a:264)

Perhaps as a result of this rather dire warning justice researchers have taken note of the need to sort out this complexity in their field. However, while some confusion may yet persist for some time to come, there is still much to be gained from this research field which has provided many valuable insights into people's perceptions of justice.

2.3 Theories and questions about why people are concerned with justice

> There is a well-known problem of conceptualisation in social psychology, and that is that our theories rarely correspond perfectly with the operations used to actualise them. Thus, although the findings of classic experiments may stand the test of time, the concepts employed to interpret their implications often undergo extensive revision. (Reis, 1984:26)

In a way this is one of the thorniest sections of this review, as I now explain in the next two introductory paragraphs. As the two quotations above show—and these span nearly 20 years of research—the field of justice research in social psychology offers many ideas and concepts but researchers also recognize that it suffers from a type of ongoing conceptual shift that can and does generate confusion. This is indeed the case for those justice research areas that examine questions such as why people care about justice; how and when do justice judgements become invoked; what affects these judgements; and what are the outcomes of justice judgements (Greenberg, 2001b; Ambrose, 2002). To some extent these questions are enmeshed with each other as are the theories put forward in answer to such questions. With this crisscrossing of boundaries the outcome for a researcher who is not intimately involved in the field is that questions, theories and hypotheses are confusing and difficult to unravel.

2.3.1 A tangle of questions, models and theories

For example, Cropanzano *et al.* (2001) conducted a comprehensive review of justice theory that investigates such questions. In presenting a thorough overview of the conceptual status of organizational justice, the review also generated detailed critique and some deeply probing questions about the ever-changing status of many of these concepts (Greenberg, 2001b; Lind, 2001b; Shapiro, 2001). Greenberg (2001b: 212) warns of "operational circularity" within justice research and questions whether the core notion of justice itself is being lost amongst "an ever-widening array of concepts". Also sounding an alarm bell is Shapiro (2001: 235) who

warns of "the death of justice theory" because she perceives serious shortcomings with the way researchers deal with theories. In her analysis these shortcomings are two-fold: first the tendency of researchers to "reinvent" theories which already exist which "leaves us with a plethora of theories, all of which amount in actuality to only one or very few" and second that researchers should ask the "*victims* of injustice" about their experiences of injustice to provide insight into theories of justice (Shapiro, 2001:236, 240 emphasis in original). From my perspective, as a researcher looking at actual natural resource allocation, these form an interesting pair of observations relevant to this research. First, the multiplicity and entanglement of justice concepts and models within social psychology research can be a hindrance when thinking about these questions or applying these concepts or models in a social context outside justice in organizations. Second, Shapiro recognizes the value of exploring people's perceptions of events in which an injustice has occurred. As described in Section 2.2 above, injustice was a starting point for Bies (2001) and his campaign for interactional justice as an independent justice construct. This indicates that injustice may be an important factor for this research.

2.3.2 Problems with classifying theories about why people care about justice

Another problem recognized by justice researchers is that of classifying or categorising theories and models, a technique commonly used in reviews as a way of ordering such theories. I introduce this problem here, before describing the theories themselves, because these classifications can be an artificial barrier to gaining an understanding of the theories. Problems arise when a theory is placed in one category but actually has elements that could fit into another category: so in reality it should straddle both categories. A reader who is unfamiliar with the theories and categories then has to grapple with the categorisation and the theory in tandem. Shapiro (2001) and Mikula (2005) both draw attention to the deficiencies of such classifications. For example, Shapiro (2001:236) disagrees with the categories of "process" and "content" used by Cropanzano *et al.* (2001) in their review. Shapiro interprets their classification as resting on the assumption that process theories are concerned with *how* justice perceptions are formed, whereas content theories are concerned with *why* they are formed (Shapiro, 2001:236, emphasis in original). In Shapiro's opinion some theories could fit equally well in both categories.

Mikula (2005: 203) has similar concerns with another classification which sorts justice theories into "instrumental" and "noninstrumental" categories. The term instrumental is used for theories of justice in which justice is used as a means to some sort of achievement or end, and includes theories based on self-interest where material gain is sought. In contrast, theories that are not based on material gain, but are concerned with relationships between members of a group, such as the group-value or relational model (Lind and Tyler, 1988) are placed in the noninstrumental category. Mikula (2005) argues that these labels and the classification itself

are misleading, and should be discarded. This is because many of the current theories as to why people care about justice could be interpreted as having some sort of desired outcome, such as a relationship within a group, and *could* therefore be classified as instrumental. He explains that this classification would be misleading as well as artificially narrow. As Mikula points out, there are other theories which hold that people care about justice because it is an end in itself, not purely a means to a self-related end. He suggests as an alternative to classifying theories in these seemingly restrictive ways that researchers should focus instead on the "interplay of the different reasons" why people care about justice and "the conditions and processes that affect their relative importance" (Mikula, 2005:204). Mikula points researchers to the Accessible Identity Model proposed by Skitka (2003) as an example of this type of approach. This model is described below and is a central component of the investigative framework used in this research approach. This approach does not pre-suppose any particular pre-determined categorisation of justice perspectives: rather it allows a multiplicity of possibilities to emerge from a social context.

To summarise, then, following the observations made by Reis (1984) and Greenberg (2001a) in the quotations at the start of this discussion, it is apparent that justice research in social psychology has created its own set of obstacles in its efforts to organise its theories, explain the content of those theories and review its own progress. Looking in from the outside, this can present a confusing and frustrating picture. On the other hand, it is reassuring that social justice researchers use reviews and reflexivity as tools to recognize and acknowledge such obstacles while also using such critiques to propose new areas for exploration and guide researchers onto those new paths. The two directions suggested by Shapiro (2001) and Mikula (2005), to investigate perceptions of injustice by asking people who have experienced it for themselves and to explore the interplay of reasons why people care about justice are important aspects of the research approach in this thesis (Chapter 3). I now describe some of the most prominent reasons why people care about justice.

2.3.3   Why people care about justice 1: self-interest

There are three broad groupings of theories and proposals that justice researchers use to explain why people care about justice. These groupings are first, theories that generally hold that self-interest is the central motivation in the way people deal with each other; second, theories that propose that people care about fairness and justice because this is an indication of their status or worth within a community or group; and third, theories in which morality or justice as an end in itself is the primary motivation for behaviour and interactions (Cropanzano *et al.,* 2001; Montada, 2003; Skitka, 2008). Theories in these groupings are now described.

Perhaps the single most influential theory put forward as an explanation for why people care about justice is the theory of self-interest (Tyler *et al.*, 1997; Tyler and Blader, 2003). As Miller and Ratner (1996: 25) describe it "self-interest is the cardinal human motive, or so many

of the most influential theories of human behaviour would have us believe". A self-interested individual or group operates for material gain, whether this is at a personal level or at a community level. Indeed, self-interest could be used to explain a wide variety of activities or motivations, for example, to increase social well-being by membership of an exclusive club or a desire to be seen to be altruistic and caring to promote one's image in a community (Montada, 2003). On the surface some community activities could seem to have nothing to do with self-interest, being concerned with the welfare of others, but as Montada (2003) points out, an underlying self-interest motive could be found for a whole range of apparently unselfish actions. This may explain why the self-interest theory is so firmly entrenched as the dominant explanation for why people care about justice. Social psychologists have labelled it the "myth of self-interest" because, although it is a widely held view, there are many other explanations for human motivation about justice that do not include the self (Tyler and Blader, 2000:70).

Nevertheless, despite these other explanations, as Miller and Ratner (1996:30) point out, the myth of self-interest has "power" in that "people hold an exaggerated view of the power of self-interest". They suggest that this power can cause people to overstate the influence of self-interest in their actions, such as explaining genuinely altruistic behaviour as being beneficial to oneself, because such an explanation is considered normal. Miller and Ratner (1996:45) conclude by observing that "much of the power of self-interest in human affairs derives from the power accorded it by our cultural or collective representations… myths can create reality". In other words the power of the self-interest myth has created its own reality in supporting a widely held assumption that self-interest is at the core of many human motivations. As Tyler and Blader (2000) point out, the dominance of self-interest in this type of general societal or layman's understanding of human motivation masks or glosses over other motivations including fairness assessments. Justice researchers in social psychology dispute the dominance of self-interest and have proposed many other models in their quest to explain why justice is important to people (Montada, 2003).

2.3.4   Why people care about justice 2: group engagement and identity

One such model is the "group engagement model" proposed by Tyler and Blader (2003: 349) which is developed from earlier theoretical models (such as the group-value model of procedural justice (Lind and Tyler, 1988) and relational model of authority (Tyler and Lind, 1992)). As the title suggests, the group engagement model is focused on the motivations exhibited by people when they join and become involved in groups. In describing their model Tyler and Blader review the contribution made by research into the effects of procedural justice on peoples' motivations and behaviour, because research findings from earlier theories directly contribute to their model. For example, the importance of interpersonal treatment (such as the importance of voice in people's evaluations of how they were treated) was found in the earlier relational model. Interestingly, Tyler and Blader (2003:351) chart the progress of the

"character" of justice research as it moved from 1960s considerations of allocation rules for the distribution of resources towards the more recent view of being more about "quality of treatment issues". They suggest that early justice research was focused on showing that "justice matters" and that "people's thoughts, feelings, and behaviours are shaped by their justice judgements", which suggests that "information about justice is central to people's evaluations of social situations" (Tyler and Blader, 2003: 352). This is an important point to make at this stage in this review because it demonstrates the connection between the notion of *justice* and people's *feelings* and *behaviour*. Tyler and Blader (2003) then argue that attention needs to be paid to the psychology of justice to gain a deeper understanding of these effects. I include these points here about the development and character of justice research because, as revealed in Section 2.5, some researchers have questioned what appear to be assumptions that matters of justice are the basis for some motivations and behaviours.

The key point to be made here about Tyler and Blader's group engagement model is the importance of procedural justice and interpersonal treatment in shaping peoples' social identity within groups. They suggest that membership of a group provides an individual with a way of forming a social identity and that co-operation within the group is in part shaped by a common identity. Aspects of identity include "identification, pride and respect" (Tyler and Blader, 2003:356). While cooperation includes the sharing of resources, the importance of procedural justice and interpersonal treatment in this model is not so much related to making decisions about resource allocation as it is about the security of people's identities within the group, or as Tyler and Blader (2003:358) describe it "identity security". Identity security is important because it provides a sense of self-worth for group members. Many research studies in this *relational* type of model have highlighted the importance of procedural justice and its effect on an individual's sense of identity and self-esteem (Ambrose, 2002).

2.3.5   Why people care about justice 3: morality and justice as an end in itself

As Ambrose (2002) points out, the first and second research groups—theories that focus on self-interest and theories that focus on identity—have dominated organizational justice research to date. However, researchers have criticised these two fields of research for being too narrowly focused and for ignoring other motivations that are concerned with morality (Folger, 1998). For example, Cropanzano *et al.* (2003: 1019, emphasis in original) argue that justice "includes treating others as they *should* or *deserve* to be treated by adhering to standards of right and wrong". They suggest that "justice is in part a judgement about the morality of an outcome, process, or interpersonal interaction" and not just about their own identity or their own gain (Cropanzano *et al.*, 2003: 1019). Folger (1998:32) is also concerned with the inclusion of morality in justice considerations and suggests that procedures have a role to play in "preserving human dignity", and should not be considered merely as a means for seeking outcomes or as ends in themselves. Along the same lines, Montada (2003:538) suggests that justice is "a moral

imperative for social life. It is not a means to achieve personal aims but rather an end in itself". For Montada (2003) justice comes with an obligation as well as an entitlement: obligation to deliver justice as well as an entitlement to receive justice from others. Similarly justice can be claimed on behalf of others as well as for oneself (Montada, 2003).

Justice as an end in itself is a central element of Belief-in-a-Just-World theory which Lerner (1998) describes as having roots in a childhood need for a stable environment and the belief that good prevails over bad. In this theory people have a need for justice and get what they deserve. If an injustice takes place then their belief in a just world is challenged. According to Lerner's theory, people then manipulate their thoughts to justify why this has taken place, for example, to maintain the belief that good things happen to good people. The phenomenon of *victim derogation* comes into play as a result of one of these so-called manipulations to justify why victims of perceived acts of injustice actually deserve the treatment they get. For example victims can be seen as "lazy, stupid, naive, inferior, or morally defective" and justifications can take such forms as "people are poor because they do not want to work" (Tyler *et al.*, 1997:138). Lerner (1998: 261) suggests that it is part of human nature for people to "develop a commitment to justice" in part, because people's lives are concerned with creating stability in their environment. He strongly refutes the dominance of self-interest, suggesting that justice is "an omnipresent and sanctified part of people's lives". He maintains that the principles of justice are part of the fabric of institutional arrangements and that "people remain exquisitely sensitive and continually responsive to issues of deserving and justice" (Lerner, 1998: 260). Finally, for Lerner, justice is about people's need for the structure and stability of their world and injustice is about threats to that stability (Lerner, 1998).

2.3.6 From competing models to a complex mosaic in a social context

Skitka (2009:102) has described the three groupings outlined above respectively as "*homo economicus*", "*homo socialis*" and "*homo moralis*". She calls these groupings "perspectives or frames of reference" but also suggests that these could be regarded as "contingencies" because which perspective or frame of reference is adopted will depend on how people see their current situation: in terms of their self-interest, in terms of their membership of a community or in terms of what they see as right and wrong (Skitka, 2009:99). These groupings have traditionally been seen as "competing explanations for why people care about fairness, and therefore what shapes fairness judgements" (Skitka, 2009:104). In her view a contingency model of justice would recognize that people have different perspectives about fairness depending on their current situation and concerns. Social context is therefore important in understanding people's perspectives about justice and fairness. As Skitka suggests, the contingency model could be useful in examining current-day situations in which interactions between groups or communities and disagreements or conflicts are taking place. In other words, rather than having a single motive as a dominant explanation, as these theories imply, there are likely to be *many* reasons

and motivations underlying concerns about fairness and justice. Ambrose (2002) also takes the view that there are many reasons why people care about justice and theories should not be seen as competing but rather as "different parts of a complex mosaic" (Ambrose, 2002: 807). Having considered the three groupings of why people care about justice, this review turns to the next question: when do people become concerned about justice.

2.3.7   When and how do people become engaged in matters of justice?

Understanding *when* and for what reason people become engaged in issues of justice is an important area of justice research. As reviewed above, there are many reasons *why* people care about justice and specific instances of these will depend on the social context. Skitka (2003:286) developed her "Accessible Identity Model" as a tool to understand more about when and why people become engaged in issues of justice. In the Accessible Identity Model Skitka (2003) proposes that people have three primary layers of identity which are organised around the material, social and personal identities. She suggests that people will determine whether an action or decision is fair or not fair according to which layer of identity is salient, or activated, at the time. The material identity is largely concerned with livelihood, family and possessions; the social identity is concerned with social relationships, status and belonging within groups and personal identity is concerned with personal values, beliefs and concerns with what is right or wrong.   If any one of these three areas is threatened then the Accessible Identity Model suggests that people will engage in thoughts about justice and fairness from that threatened identity perspective. For example, the Accessible Identity Model suggests that when a person's livelihood or material interests are threatened then their justice concern will be associated with the fairness of outcomes. This model can also apply to a group's perspective of justice and a group can also engage in issues of justice at these three identity levels (Skitka and Bravo, 2005). The importance of social identity is also emphasised by Clayton and Opotow (2003) who suggest that justice and identity are strongly interconnected and that the social context is an important consideration. Platow *et al.* (2003: 267) also highlight the importance of a *shared* social identity and propose that this shared social identity is important in people's consideration of fairness.

2.3.8   Justice judgements and two fairness theories

How people form justice or fairness judgements is another area of enquiry that has generated several theories. These have their roots in the early *equity theory* developed by Adams (1965), which is concerned with the perceived fairness of what people receive as an outcome in relation to their inputs (Cropanzano *et al.*, 2001). More recent theories such as *fairness theory* developed by Folger and Cropanzano (2001) and *fairness heuristic theory* developed by Lind (2001a) are concerned with the process by which the judgement is made as well as the actual fairness judgement (Cropanzano *et al.*, 2001). Both theories have evolved from and draw from earlier theories: they are integrative and synthesise many strands of

research (Cropanzano *et al.*, 2001). Yet, they are both relevant in different contexts and, as Lind (2001:222) points out, they provide "different accounts of the justice judgement process". Taking fairness theory first, this is concerned with *accountability* in fairness judgements and the assignment of blame onto the entity causing the perceived unfair treatment. Fairness theory has three components: first, an action or situation which is unfavourable to the perceiver; second, the action or situation must have been voluntarily caused by an entity that is therefore seen to be accountable; and third, the action or situation must be perceived to be wrong or violate some ethical code or principle (Folger and Cropanzano, 2001:3). The perceiver can make distinct fairness judgements about these three components (Cropanzano *et al.*, 2001).

In contrast, Lind's fairness heuristic theory is concerned with fairness judgements where there are "repeated encounters" between, for example, managers and employees in organizations (Lind, 2001a:61). Central to the theory is what Lind (2001a: 61) calls the "fundamental social dilemma" of competing demands between group interests and individual interests. Lind suggests that people develop impressions of fair treatment over time, but in episodes. For example, an individual will make a fairness judgement at the outset of a relationship which will then be used as a guide as the relationship progresses. The fairness judgement will be updated from time to time. Therefore the first impressions of fairness are important and these can be process or outcome related. Lind (2001a:73) argues that the general fairness judgement becomes "an anchor and a context used to understand and interpret justice-relevant experiences". Importantly, the fairness heuristic theory suggests that there is a "substitution effect" whereby the fairness impression of a process can substitute for the fairness impression of an outcome, if the latter is missing or an outcome has not yet been reached in the relationship (Lind, 2001a:75). This, according to Lind (2001a:74), accounts for the "fair process effect" (described above in Section 2.2) because an earlier fairness assessment will influence a later fairness judgement of an outcome. Further, this has important implications for distinctions between the effects of procedural, distributive and interactional justice. Lind proposes that instead of analysing the intricacies of the relationships between these three justice constructs, we should be focusing instead on "understanding the consequences of patterns of justice experience" (Lind, 2001a:82).

In summary, this section has reviewed the complexity and entanglement of theories about why and when people care about justice. It is clear that an individual's perspective within a social context is an important consideration when investigating these questions. The review also shows that there are many reasons why people do care about justice and many ways in which justice judgements are formed. Theories which aim to answer these questions should be seen as alternatives that depend on the context rather than as being in competition with each other to provide a single explanation: there may be more than one explanation that is applicable at any particular time and for any particular context.

2.4   *From theories of justice to a theory of injustice*

> Justice is not a collection of principles or criteria… justice is the active
> process of the preventing or repairing of injustice. (Cahn, 1967: 381)

2.4.1   Distinguishing between justice and injustice

So far this review has investigated justice from many angles: from a societal level to an individual level, from the distribution of goods to an individual's assessment of justice. I now pick up the thread of *injustice* from the review and look to theoretical perspectives from jurisprudence and philosophy as a starting point. First, I return to a perspective from jurisprudence and introduce the thoughts of Cahn (1949, 1967). Cahn describes in his epilogue that he decided to write his book *The Sense of Injustice* because he realised he had been talking about "justice" for 18 years and yet could still not "explain intelligibly what I meant by the word…I could not explain the one word that made sense of my professional life" (Cahn, 1949:188). Yet his book is about establishing that there is a "sense of injustice" (page 192) which he describes as "an indissociable blend of reason and empathy". Reason provides "observation, analysis and science" and empathy provides "warm sensibility": both are required for the sense of injustice (Cahn, 1949:26). Whereas justice gives people a sense of security, the sense of injustice is an active part of the day-to-day operation of the legal system, driving it towards justice. For Cahn the term justice had come to signify a "static condition" whereas he thought justice should be seen as an "*active process* of remedying or preventing what would arouse the sense of injustice" (Cahn, 1949:13, emphasis in original).

Also concerned with making a clear distinction between justice and injustice is the philosopher Wolgast (1987). Wolgast observes that a common conception of justice is that it is "an ideal or standard from which injustice departs" (Wolgast, 1987: 125). In her view this is wrong: "this is my thesis, that justice is not an original notion from which injustice is derived but vice versa, and this fact is what makes it so difficult to say what justice *is*" (Wolgast,1987:132, emphasis in original). As evidence to support this view Wolgast (1987) looks to the derivation of the word injustice, and how people speak about justice in common usage. She points out that the word *injustice* derives from the Latin word *injuria* which means injury (Wolgast,1987:133). An injury is not a negative state—it is an active event that has happened. Similarly, an injustice is something wrong that has happened: it exists in its own right, it is not merely an *absence* of something *per se*. Wolgast makes the point that in day-to-day terms people generally speak about justice as correcting a wrong that has already happened: the wrong is in the past. Thus, to Wolgast, "Justice appears then as an indefinite corrective to injustice rather than something definable in its own right" (Wolgast, 1987:146). In a similar vein, writing from the perspective of political theory, Shklar (1990:15) criticises philosophy and art in her book *The Faces of Injustice* because they "seem to shun injustice" and they "take it for granted that injustice is simply the absence of justice". Shklar is concerned that the "sense of

injustice" and "the difficulties of identifying victims of injustice" are not taken into account (Shklar, 1990:15). These include victims who are recognized as such and those who would not normally be recognized as victims of injustice, for example, people who have been the subject of fraud. As Shklar (1990) points out, many people would not wish to be recognized as victims—victimhood has connotations of degradation.

Acknowledging the contribution made by these three authors, Simon (1995:11) develops an argument for separating the terms justice and injustice "to show that a theory of injustice does not have to depend upon a theory of justice". In developing his theory of injustice Simon (1995:11) proposes a "separability thesis" to dispel the notion that justice and injustice are inseparable. He argues that injustice can exist and be defined without a definition of justice and that injustice "has its own dynamic, apart from justice" (Simon, 1995:14). He then argues that injustice takes "priority" over justice in four ways: "empirically, temporally, psychologically, and morally" (Simon, 1995:16). By priority, Simon means that injustice comes first, for example, an unjust event results in a call for justice. Empirically, injustice takes priority because it is more concrete and connected with real-life events than justice, which is more abstract. Similarly in psychological terms injustice arouses passion, anger, outrage and action in contrast to justice, which is less demanding on the emotions. In moral terms, injustice arouses a psychological response which then invokes a sense of injustice (Simon, 1995:18). In claiming this priority of injustice over justice Simon (1995:24) argues that a theory of injustice should first look at "what is wrong before embarking upon a programme based on what is right" and that this theory of *injustice* can occupy the middle ground between theories of justice and day-to-day experiences of injustice. Taking heed of this suggestion to look at what is *wrong* we now return to the social psychology of justice to explore research that investigates the experience of injustice from a social psychological perspective.

2.4.2 The experience of injustice

> From a psychological point of view, there is no objective justice. It is the subjective perceptions of justice and injustice that matter. (Mikula, 2005:199)

Social psychologists call attention to the subjective nature of justice and injustice, as Mikula (2005) points out in the quotation above. Mikula and Wenzel (2000:127) argue that while this emphasis on the subjectivity of justice and injustice may be perceived as a "trivial" point it is nevertheless important because justice "can be unambiguously and objectively defined only at an abstract level". This is important in justice research when discussing interpersonal treatment, processes and outcomes: it is the individual's evaluation or perception of these as just or fair that counts. As Mikula (2005) points out, in social conflicts it is the differing perceptions and viewpoints of what is just or unjust that lies at the heart of the conflict or disagreement. In a social conflict there is no such thing as objective justice: a conflict

revolves around differing views about processes and outcomes and is often a result of perceived injustices (Mikula and Wenzel, 2000).

Having clarified this distinction between the notions of subjective justice and objective justice, this review now turns to perceptions of injustice and the experience of injustice. While there have been several social psychological studies of every-day injustices from the perspective of the layperson, these have largely focused on identifying and categorising information on injustice, such as unjust events and elements that contribute to judgements of injustice (Mikula *et al.*, 1990; Clayton, 1992; Mikula, 1993; Lupfer *et al.*, 2000). Such studies have been mainly concerned with phenomenology and systematic information, rather than investigating the actual lived experience of victims of injustice, which is perhaps one reason why Shapiro (2001) argued strongly for more research that takes the latter approach (Section 2.3). However, these studies are useful in terms of identifying the range of experiences of injustice. For example, Mikula *et al.* (1990) found that the daily events which people considered unjust were spread across a broad range of distributive, procedural and interpersonal concerns, with interpersonal treatment accounting for a significant amount. Mikula *et al.* (1990) suggested that the importance of interpersonal treatment in their results supported the proposal to recognize interactional justice as a justice construct in its own right. In a similar study Clayton (1992) investigated the experience of injustice from people's own perceptions of unjust situations and found that these varied considerably according to the social context of the perceived injustice.

More recently, Lupfer *et al.* (2000:405) investigated what they call "folk conceptions" of fairness and unfairness and found that how people experience fairness and unfairness in everyday events is consistent with categorisations used by social scientists, namely distributive, procedural and interactional. They found that people react more strongly to events that are perceived as unfair than they do to events perceived as fair. Importantly, Lupfer *et al.* (2000) found that people, in making judgements of *unfairness*, used criteria from all three justice constructs: distributive, procedural and interactional. This is in contrast to their finding of the predominance of *procedural* justice criteria when people make judgements of *fairness*. Thus they suggest "the standards people use in judging events to be fair versus unfair are not symmetrical and complementary" (Lupfer *et al.*, 2000:424). They note that this supports Shklar's (1990) assertion that injustice is not simply the absence of justice (described above) and conclude that "true fairness requires that all three be satisfied" referring to the three justice constructs (Lupfer *et al.*, 2000: 426).

In a review of research into the experience of injustice, Mikula (1993) suggested that there are different perspectives involved in assessments of injustice which can be grouped into three areas: perspectives of the victim; perspectives of the individual or group held to be responsible for the injustice; and perspectives of bystanders who observe the incident but are not directly affected by it. Mikula (1993) also identified three basic components of injustice judgements in

which the notion of *entitlement* is critical. These were the perceived violation of entitlement; the attribution of responsibility to an agent causing the injustice and attribution of blame to that agent (Mikula, 1993: 240).   These components are included in Mikula's (2003:793) later "attribution-of-blame model of judgements of injustice" which adds a perceived lack of sufficient justification for the violation as an additional element. This model proposes that the experience of injustice is heightened when these elements are activated but recognizes that an injustice can be perceived in situations when not all elements of the model are present. Mikula's (2003) findings show support for the model but he recognizes that the model has limitations in exploring the wide range of perspectives in a social conflict.   However, it is now well-recognized that notions of entitlement and corresponding violations of entitlement are key elements in the formation of justice or injustice judgements (Mikula and Wenzel, 2000). Lerner (1987) proposed a framework in which rules of entitlement are a major feature of the *social structure* within which people live. Such entitlements are expressed through general day-to-day activities in which people understand "who is entitled to what from whom": these have a psychological basis and are embedded into daily decision-making (Lerner, 1987:108). Entitlement is not only concerned with tangible aspects of daily life, such as property rights, but is also concerned with the way people are treated, such as the right to be treated with respect, to be provided with explanations and to be able to participate and have a voice (Miller, 2001).

In a review of research investigating disrespect, the experience of injustice and entitlements, Miller (2001) suggests that there are two main areas in which people have a sense of entitlement. These are interpersonal sensitivity (including respectful treatment) and accountability (including explanations relating to processes or outcomes in which an individual is involved). However, the difficulty in describing what constitutes respectful treatment is acknowledged: people recognize *disrespectful* treatment but find it hard to articulate what would be respectful treatment. Miller (2001: 532) suggests that disrespectful treatment can "compound the injustice created by an undeserved outcome and constitute an injustice of its own". In seeking explanations for why people perceive disrespectful treatment as an injustice Miller (2001: 533) comes up with two rationales: disrespectful treatment first "deprives people of something to which they are entitled" and second "subjects people to something they do not deserve". Such explanations for why people hold being treated with respect important in their justice judgements are critical in gaining an understanding of how people interpret and react to issues of justice.

2.5   Justice research: status, reflections, and distinctions

> Clearly, it is easy to lose oneself in this tide of scholarship—especially when one considers the highly focused, routine matters to which social scientists must devote their attentions. (Greenberg and Cropanzano, 2001:vii)

This review of justice has covered a lot of ground: from abstract theories about how society should be organised to the practical exploration of why and when people engage in justice. It is now time to take stock of the situation and reflect on these theories and research findings from a number of perspectives. These reflections include the current status of justice research, areas in which distinctions or further clarification are required and why theories of justice and injustice are important in practical terms.

2.5.1   Justice research: further clarification required

> [W]e are struck by the degree to which justice research has become self-interested. We would characterise the majority of contemporary justice research as focusing on "within justice" questions. The trend is towards slicing justice more and more finely. (Ambrose and Arnaud, 2005:78)

As discussed in Section 2.3 above, the field of justice research is dynamic and simultaneously evolving in a number of directions. Such rapid growth can bring with it confusion and a sense of being overwhelmed by the multitude of studies and interrelated theories. But it is clear from the remarks in the two quotations above and the willingness of justice researchers to self-reflect that these are known problems. Ambrose and Arnaud (2005), for example, are particularly critical of the inward looking nature of justice research in focusing on the fine distinctions between justice constructs rather than examining justice constructs in relation to other types of motivations on people's behaviour. Greenberg (2001b: 211) points out that "rude and insulting treatment" could be described equally well by the term *uncivil* as it could be described by the term *unfair*. He suggests that what makes the behaviour unfair is the violation of an accepted standard of behaviour. Greenberg uses this example to point out that such distinctions are necessary and highlight the need to achieve a "clear conceptual agreement about the meaning of justice itself" (Greenberg, 2001b:212). Mikula (2005:205) raises a question along the same lines in asking whether "the notion of justice is needed at all in accounts for why people care about justice". He speculates whether some of the theories about justice which include elements such as trust, neutrality, and respect would work equally well without the notion of justice. This seems to imply that what is being studied as justice research on some occasions could in fact be unrelated to people's thoughts about justice. While this appears to be a relatively minor point in Mikula's (2005: 197) chapter presenting "observations and critical thoughts" about justice research, it is nevertheless an important one which deserves further reflection and has implications for the research approach adopted in this thesis (discussed further in Chapter 3). Another critical observation made by Mikula (2005) is that justice researchers often fail to distinguish between the measures used in justice research. He

recommends that researchers distinguish between direct and indirect measures of justice (see Chapter 3 for a further discussion).

Other reflections on the status of justice research concern the structure of justice research itself. For example, Greenberg and Cropanzano (2001) observe that interest in organizational justice has moved into many applied fields, such as industrial psychology, legal studies and consumer behaviour. However, as Mikula (2005) points out, this raises a problem with the meaning of the term "organizational justice". Mikula (2005:206) argues that this is a "misnomer" because it implies that organizations require a particular type of justice which is different to justice in other areas, such as families and schools, in which case the terms family justice and school justice would be needed. He recommends instead use of the term "justice in organizations" (Mikula, 2005:206). I have come to the same viewpoint with regard to justice research in relation to natural resource management, the subject area of this thesis. The context and social setting of natural resource management may be different to that in organizations but justice theories from so-called organizational justice are relevant and can be applied to great effect. The next question to be addressed in this review is where justice research is now heading.

2.5.2 From processes and outcomes to overall justice evaluations

> There is an increasing acknowledgement in the justice literature that the focus on different types of justice may not accurately capture individuals' justice experiences. (Ambrose and Schminke, 2009:491)

> Justice types, although distinct, may not in the final analysis be very different in either their dynamics or their consequences. (Lind, 2001b: 225)

The most recent shift in justice research has moved the focus from distinctions between justice constructs, such as procedural and distributive justice, to the notion of overall justice judgements (Ambrose and Arnaud, 2005; Ambrose and Schminke, 2009). This is in part due to the recognition that people's experience of justice and fairness is evaluated from an overall or holistic point of view rather than in separately identified terms of process and outcome (Greenberg, 2001b; Lind, 2001b). As Ambrose and Schminke (2009) comment, this latest shift brings justice research full circle to considering all the elements combined. However, this is not to suggest that the distinctions between constructs are not useful and relevant in understanding why people care about matters of justice. On the contrary: distinguishing between constructs and understanding in what areas they are related or perform similar functions are essential elements of the bigger justice evaluation picture.

For example, Cropanzano and Ambrose (2001:120) describe similarities between the constructs procedural justice and distributive justice which they call the "monistic" perspective. They argue that while individual events can be classified as either part of a procedure or an

outcome, the same event can be seen as part of a *process* and yet can be an *outcome* at the same time. For example, the formation of a committee to oversee a process could be seen as part of the process or as an actual outcome. Similarly interactional justice can be considered as both process and outcome: an insult is an event which can be perceived as an unjust outcome. Whether something is part of distributive justice or procedural justice depends on the perceiver. As Cropanzano and Ambrose (2001) note, procedures and outcomes interact, and as described earlier, the perceived fairness of procedures can mitigate situations in which there are outcomes that are perceived as unfair. Revisiting the distinction between procedural justice and distributive justice in the light of the more recent focus on overall justice, Ambrose and Arnaud (2005) firmly support moves to deepen our understanding of overall justice evaluations, but recommend that this research includes an appreciation of the role each different construct plays in determining how people evaluate justice.

These two seemingly opposed perspectives—making distinctions between constructs versus taking an overall holistic view—bring to light yet another way of classifying justice theories. This distinguishes between the proactive and reactive dimensions of theories of justice (Greenberg, 1987; Colquitt *et al.,* 2001).   These two dimensions could be considered as concerned first with *creating* the conditions in which a procedure or outcome can be perceived as fair (proactive) and second with *evaluating* whether a procedure or outcome is perceived as fair or unfair (reactive).   The ability to distinguish between justice constructs is useful in proactively designing procedures and outcomes. Conversely, in evaluating reactive perceptions of fairness and unfairness, a holistic or overall justice evaluation is useful, as indicated earlier in this section. From this discussion it can be seen that the ability to distinguish between constructs is important as is the ability to take a holistic perspective in evaluating justice perceptions. This review now turns to another fundamental area in which distinctions need to be made.

2.5.3   Justice and fairness: interchangeable or distinct?

> Social scientists advance knowledge by finding facts and grounding theory on them.   But that advance is impeded, I submit, by confusion and inconsistency over how the concepts of justice and fairness are understood, related, and used. (Finkel, 2001: 43)

Finkel (2001:xiii), in his quest for "the unearthing of commonsense unfairness" first sets to work to seek clarification about the terms justice and fairness. As the quotation above clearly depicts, Finkel's (2001: 55) position on the topic is that there is "an ever-present confusion" over the use and meaning of these two terms. Once this confusion has been pointed out it is indeed quite striking, particularly in the social psychology of justice literature, that the terms justice and fairness are used interchangeably. Few authors seek to clarify their use of these two terms although some do acknowledge that they use them interchangeably (for example, Lind and Tyler, 1988; Brockner and Wiesenfeld, 1996). In some papers this interchangeable use can be

confusing, for example, Colquitt *et al.*, (2001: 426) ask the question "Have the different ways of conceptualizing justice improved our ability to create perceptions of fairness?". While I deduce that this is an example of interchangeable use in action it is nevertheless disconcerting when such switches are made within the same sentence. This interchangeable use of terms can add an extra layer of complexity onto an area which is already complex in an applied justice research study (for example, Johnson *et al.*, 2007).

Although many researchers use the terms justice and fairness interchangeably, there are also those who make distinctions between the terms and where they are used. For example Reis (1984) states:

> Indeed, the notion that outcomes and procedures demand separate consideration is so well recognized in philosophy that the term *justice* is usually reserved for outcome distributions, whereas *fairness* is applied to procedural matters. (Reis, 1984:27, emphasis in original)

Similarly Wissenburg (1999: 34,35) defines fairness as "a procedural rather than a substantive ideal" and "treating like cases alike" whereas justice is defined as "giving each his due". Finkel (2001) devotes considerable attention to the distinction between fairness and justice and how these terms have been used in the literature. He identifies three patterns of use which he describes as identity, conjugate, and subset (Finkel, 2001:43). In the first pattern, *identity*, the two terms are used interchangeably. In the second pattern, *conjugate*, the terms are paired as in "just and fair". In the third pattern, *subset*, either of the terms can be seen as a subset of the other. Finkel adds his own fourth category "overlapping and separate" in which the two terms have distinctions as well as areas that overlap (Finkel, 2001:44). In a broad review of literature in which distinctions are made, Finkel (2001) finds that there is a frequent distinction in which fairness is seen as process and justice is seen as outcome, but also finds support for his fourth category, overlapping and separate. He found that fairness had three different meanings: "fairness as reciprocity, fairness as outcome and fairness as a moral response" (Finkel, 2001:57). Interestingly, Finkel (2001) decides from his review, summarised briefly here, to focus on the topic of *unfairness* as a fruitful field of research, also in part drawing on the distinctions between justice and injustice made by Shklar (1990) and Wolgast (1987). I now return to such theorists to discuss why theories of justice and injustice matter.

2.5.4 Why theories of justice and injustice matter

> The absence of an explicit conception of social justice in political life has the result that arguments about public policy are made without any attempt to explain from the ground up what is their justification. (Barry, 2005: 10)

The quotation above from Barry's (2005) book *Why Social Justice Matters* illustrates what can happen in a practical way in the absence of a theory of social justice. As this review has shown, the ideas and principles of justice take on many forms and operate in myriad ways

throughout society.   Justice is concerned with the distribution of public goods according to principles such as need, equity and equality, the operation of institutions, the application of laws and putting wrongs to right.   How justice principles are coherently assembled, articulated and implemented is the work of a theory of justice. As Barry (2005:12) states "We have to have some independently derived idea of what a just distribution… would look like" before making and implementing an allocation decision. According to Barry (2005) institutions should be considered as a means to an end to deliver social justice. In order for institutions to be able to deliver justice there needs to be a theory of justice to articulate the principles by which resources are distributed. As Barry (2005) argues, facts drawn from an information base are inadequate in the absence of such a theory.

Miller (1999) also articulates the need for a theory of justice and laments the lack of demonstrated commitment to social justice policies in contemporary politics. He proposes that a theory of justice should appear "no longer as an external imposition conjured up by the philosopher, but as a clearer and more systematic statement of the principles that people already hold" (Miller (1999:51). He argues for empirical evidence to play a role in formulating such theories to bring existing underlying societal values and beliefs into play in a structured way. In this way the different principles of justice that people use in everyday life can be revealed along with other motivations and values. Interestingly, in line with the comments of Mikula (2005) and Greenberg (2001b) noted above, Miller also recognizes that while people will protest if a situation is perceived as unjust there is still a need to understand the basis for people's beliefs and "whether an evaluation is rooted in justice or in some other value" (Miller, 1999:50). Understanding the basis for injustice is also a critical aspect of Simon's (1995) proposed theory of injustice. He suggests that a theory of injustice asks different questions than do theories of justice by examining the harm done to people through perceived injustices.

Returning to social psychology for a practical perspective on why theories of justice matter: Greenberg and Lind (2000:72) point out that wherever resources are distributed the question is asked "Who gets what, and is it fair?". While recognizing that there has been little practical application of organizational justice theories, they put forward a case for applying these theories in practice as justice-based interventions. Such theories can be applied to promote the idea of fairness and thereby improve management practices, resolve disputes, and improve employee relations in situations such as employee layoffs. They conclude "Our theories are good, and we now wait for the practice to follow" (Greenberg and Lind, 2000:102).

2.6   Summary: from theory to practice

Following Greenberg and Lind's (2000) proposition above, the challenge is now to put these theories to practice. This review has shown that the theoretical territory of justice is immense: there are many ways of looking at, or perceiving, justice in society. There are, however, several key considerations that can be carried forward. First, this thesis takes a

pluralistic approach in which justice is seen from a normative or morally-based perspective rather than a legal perspective, and where the notion of justice encompasses distributive, procedural and interactional concerns. The interplay between these three constructs is recognized in that each construct has some part to play in determining the overall acceptance of outcomes by those with an interest in the outcomes. The thesis also acknowledges the plurality of justice motives, or why people seek justice, and that these motivations range from self-interest to seeking justice as an end in itself.

A second key area is the separation of justice and injustice and the recognition that injustice is not merely a lack of justice. A perceived injustice can be an event or outcome in a social context. The importance of context is also noted from this review: individuals and communities can have a range of justice concerns, in any given societal context, and these concerns depend on their own situation and their interaction with others. Justice concerns can be invoked from a material, social or personal perspective as described in Skitka's (2003) Accessible Identity Model. Thus the differing areas of justice concerns and interplay with a variety of motives for seeking justice is recognized here. A third key idea to take forward is how people conceptualise and evaluate fairness and justice. This review shows that clarification is required as to the use of the terms fairness and justice. The review has also shown that there are many ways in which people evaluate justice and fairness: this can be in terms of specific aspects of a process or outcome or as an overall general fairness assessment. In this way the proactive and reactive dimensions of justice become important considerations to take forward: by understanding reactions to decision-making processes and outcomes through fairness evaluations, greater understanding can be gained that can be used in proactive planning.

The next challenge to be addressed is to devise a research approach in which these considerations can be put to practical use. The following chapter describes the research approach adopted in this thesis and how justice theories are combined in an investigative justice framework to pursue the aims of this research.

Chapter 3: A holistic and adaptive research methodology

Lake Mulwala, River Murray, Yarrawonga, Victoria, February 2007

(Photo: Catherine Gross)

The previous chapter started with a review of theories of justice and closed with a discussion of why such theories are important and why they matter in everyday life. Echoing this pattern of relating theory to practice, I move forward in this chapter to the practical aspects of the research. This is preceded by a discussion of the bigger environmental picture and of the contribution that environmental philosophy can make to the practical issues of concern to this research. As outlined in Chapter 1, this research is concerned with the sharing of scarce natural resources. However, the initial task is to acknowledge the scope in terms of who or what is included in the sharing of resources. An ultimate goal of environmental research must be to maintain the health and well-being of ecosystems as well as human societies. For example, such a goal is articulated clearly by an environmental organisation, the Nature and Society Forum, in its vision: "Healthy people on a healthy planet" (Nature and Society Forum, nd :1/1). But there are several challenges, summed up by Rolston (1999:108):

> The four most critical issues that humans currently face are peace, population, development, and environment. All are entwined.

A significant problem for researchers is not only to decide what specific problems within such challenges to take on, but also how to recognize interconnections with other areas and then to set their research boundaries so that the research aims are both attainable and meaningful. This is where philosophy—or theoretical ideas—can be called upon to position the research within the bigger picture and help set it on course to achieve its aims. From such a philosophical stance a methodological position can be drawn which gives the research approach its validity and legitimacy.

In this chapter I first draw on environmental philosophy to discuss the boundaries of the research and present an argument to include the environment in the scope of justice. The next sections outline the holistic and adaptive research methodology adopted for this research: this methodology provides the theoretical basis and structure from which the research approach and specific research tools are developed. The benefits and some challenges of a holistic and transdisciplinary research approach are described. After introducing the adaptive and qualitative research approach I explain how theories and constructs of justice are incorporated into an investigative framework which is used in the fieldwork. Details of the research tools and ways in which the research process was adapted as the fieldwork progressed are described; this includes a general overview of the fieldwork and interviewing experience. Finally, the way in which the data was analysed is explained.

3.1   *Environmental philosophy and the setting of boundaries*

> All of the main threats to humans today, and to the living systems of the
> biosphere on which we depend, are consequences of the human aptitude for
> culture and its influence on human activities. (Boyden, 2004:10)

> The environmental crisis is in part a crisis of concepts as well. (Weston,
> 1999:4)

The theories of justice discussed so far have been human-centred. But what of the environment—should nature itself be included in considerations of justice? This section is concerned with the notion of the *scope* of justice as being concerned with who or what is included or excluded in deliberations of justice (Opotow, 1996). The degree to which the scope of justice is extended is dependent on a variety of prevailing social attitudes including human culture, religion and race (Opotow, 1996; Clayton, 2000). Those excluded are not accorded justice or resources to the same degree as those within the scope of justice. With regard to the environment and natural resources the dominant Western cultural tradition is exclusionary in that it takes an anthropocentric perspective in which natural resources are predominantly managed for the benefit of human societies (Opotow, 1996). The term "ecosystem services" embodies this stance, implying that ecosystems are valued because they provide a service, such as water filtration and purification in catchment areas. Human societies have generally developed an approach in which living and inanimate objects that are considered to make up the natural world are valued in terms of their functional use by humans, and not in their own right (Plumwood, 1999). Thus the natural world has largely been placed *outside* the boundaries of ethical and justice considerations. There are, however, many cultures and religions such as Buddhism, Islam and indigenous traditions that have developed more inclusive and compassionate philosophical approaches which link the human, natural and spiritual environments (Opotow, 1996; Chapple, 2001; Haq, 2001).

3.1.1   The environmental movement: philosophical and practical

Practical and philosophical responses to the generally recognized global environmental crisis that emerged in the latter decades of the 20th century have been wide-ranging. The environmental movement consists of a broad array of practically-oriented groups and organisations as well as more academic and philosophically-based schools of thought. Examples of the former include the environmental justice movement, with its grass-roots origins in race-based human environmental injustices (Dobson, 1998); activist groups focused on animal rights and welfare (for example, the Sea Shepherd Conservation Society) and others focused on reorienting the way people in societies think about the natural world and operate within it (for example, the Nature and Society Forum). Extending the scope of justice to the non-human world is a central concern of the recently emerged field of enquiry known as ecological justice (Low and Gleeson, 1998; Bosselmann, 2008). Bosselmann (2008) reviews this area in relation to current justice discourses as well as ethical and legal discourses. In

particular Bosselmann (2008:97) relates ecological justice to the notion of ecological sustainability and describes "ecological integrity" as the "missing link" between the sustainable development and justice debates. Environmental philosophers have been concerned with how the natural world is conceptualised in relation to humans and the inadequacy of classical human-centred current philosophical concepts, to which Weston refers in the quotation above (Weston, 1999). For example, those who ascribe to the notion of "deep ecology" argue that *all* living and inanimate objects should be valued, irrespective of their utility to humans (Opotow, 1996). This is in contrast to "shallow" ecology which is more concerned with practical matters such as conservation and pollution control (Mathews, 2001). These are just two perspectives in the broadly diverse area of environmental philosophy which has yet to come of age (Jamieson, 2001). One problem with environmental philosophy is that it is largely divided into two distinct modes of operation that do not work together (Weston, 1999). The first is characterised as a standard academic approach which tends to work outwards from a traditional human-centred standpoint to incorporate environmental concerns. The second is less academic, less concerned with traditional thinking, and uses art, literature, stories, poetry and the lived experience as a basis for environmental philosophy. Weston (1999) suggests that these two areas each have something to offer as a way forward and would benefit from recognizing the validity of each other's approaches by working together.

3.1.2 Human-centredness and self-interest

Another specific area of debate between environmental philosophers is described by Plumwood (1999); in this area of debate some see the current human-centred approach as "normal" and inevitable, whereas others argue strongly that this must be challenged and that environmental philosophy is the vehicle through which alternative perspectives can be envisioned. At the centre of this debate is human self-interest and the use of nature as a means to an end (Plumwood, 1999:71). The human-centred argument holds that it is normal behaviour to protect one's well-being and interests and this cannot be cast aside in the interests of something else, such as a vague philosophy. Plumwood (1999) puts the case that considering one's own interests does not mean that other interests are excluded. The two spheres of interest can work together. Thus Plumwood (1999:73) argues for an approach that includes the philosophical notion of "prudence" in which human welfare is a significant consideration in dealings with the natural world, but at the same time nature is not treated solely as a utility or means to an end.

Characterising nature as a utility and recognizing the role of human self-interest in human interactions with nature brings the discussion back to justice. The centrality of self-interest in this debate may in fact be, at least in part, a manifestation of the *power* of the myth of self-interest, rather than self-interest in its entirety (Chapter 2). For example, in the debate outlined above it could be construed that those advocating the continuation of the human-centred

approach believe that the human motivation for self-interest is so strong that other philosophies cannot co-exist. In other words, their argument could be fuelled by the power of the myth of self-interest in a self-serving way, to create the reality in which other proposals, such as extending the scope of justice to include the environment, are negated. This is not the place for a detailed inquiry into these conjectures but it can be seen that these connections—between philosophies, human motivations such as self-interest, and how such motivations are perceived—do exist. To what extent do myths created by human culture persist such that they then have the effect of creating their own reality? While this is not a specific research area of this thesis, nevertheless there are implications for this research. These include such well-known societal myths about resource allocation such as "making the desert bloom" through the building of dams and redirecting of rivers.

3.1.3   Human culture as a force in nature

The importance of human culture in creating and maintaining myths and other phenomena such as the notion of perverse unintended consequences is a central argument of Boyden's (2004) approach to the human predicament.   Boyden (2004:10) calls these "cultural maladaptations".   As Boyden's (2004) quotation at the start of this section indicates it is the evolution of human culture and its influence on human activities that has resulted in the current environmental crisis. The subtitle of Boyden's (2004) book—"understanding human culture as a force in nature"— clearly articulates Boyden's emphasis on the importance of the culture created by humankind and how it has become a "new kind of force in the biosphere" (Boyden, 2004:xi). This "dominant culture" (Boyden, 2004:29) has various negative impacts including the creation of these patterns of cultural maladaptation. Recognizing that these exist is one step towards achieving the "cultural reform" necessary to achieve societies that are more in tune with the environment (Boyden, 2004:10). Boyden (2010:11) uses the term "biosensitive" to describe his vision for a society that understands and respects the processes of life. Such a biosensitive environmental ethic would be a "guiding principle in all spheres of human activity" (Boyden, 2010:11). In advocating this vision of cultural reform Boyden (2009) also presents a practical framework which can be used to analyse the impact of human culture on the living environment (discussed below in Section 3.2).

3.1.4   From environmental philosophy to practice

This brings me to a final point in this section: bridging the gap between theories of environmental philosophy and the practical measures needed to bring these into everyday life. How do we move from theory to practice?   Rolston puts this challenge to the universities. Rolston (1999:134), like Boyden, recognizes the continuing threat of a human culture that does not employ an environmental ethic: he suggests that human cultures need to move from a position where we humans strive to be good citizens in societal terms to one in which we become "residents on landscapes". Rolston (1999: 137) challenges universities to recognize

their own part in the development of maladaptive human culture and to take a stronger role in cultural reform by incorporating environmental philosophy and ethics into education:

> Environmental philosophy invites another vision, the inquiry whether we humans can launch a millennium of culture in harmony with nature.

In summary, a key message that can be taken from academics, environmental philosophers and practitioners is to extend the scope of justice to include an environmental ethic (Nash, 1990; Opotow, 1996, Rolston, 1999; Bosselmann, 2008). This thesis takes a philosophical position in which considerations of rights, fairness and justice should be extended beyond human societal boundaries to nature and the environment. However, it is outside the boundaries of the thesis to further explore the actual scope of justice as a distinct line of enquiry: rather, the thesis focuses on complex societal problems as described in Chapter 1. Having arrived at this philosophical position I now turn to the methodological approach which is the next step in moving from abstract theory to empirical research.

3.2 A holistic and adaptive methodology

This research adopts as its starting position a view of natural resource management in which the well-being of the environment itself is a consideration as well as that of the humans in it. However, as described in the section above, it is recognized that human culture is the driving force of natural resource management today. Therefore, in order to understand complex societal problems, such as the management of scarce natural resources, a holistic and adaptable research methodology is required. The term "methodology" is used here to describe a set of theoretical ideas which together form the basis of the research approach and from which appropriate research methods can be selected or devised (Midgley, 2000:105). The methodology adopted in this research derives from the philosophical position described above in that it recognizes linkages between social systems (driven by human culture) and the biophysical environment. This perspective is holistic in that it acknowledges that there is a complex interplay of such linkages. Academic research approaches that take such a holistic stance include integrative research (Dovers, 2005b), human ecology (Berkes and Folke, 1998; Boyden, 2004) and transdisciplinary research (Pohl, 2005; Wickson *et al.*, 2006).

3.2.1 Transdisciplinary research and knowledge

The academic research approaches discussed above have gained acceptance as being valid and appropriate in the investigation of complex and interrelated problems; research from within a single discipline would be unable to accomplish this (Wickson *et al.*, 2006). For example, 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

academic disciplines are still the organisers and keepers of knowledge. Brown (2008) 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. Brown (2008:31) suggests that each of these five "knowledge platforms" can develop its own separate mode of operation or thinking if it is isolated from the other areas. However, this separation can result in "silo walls" that impede communication and cause problems in understanding and dealing with problems or conflicts (Brown, 2008:42). For example, community meetings set up to solve specific problems can become dominated by so-called experts and result in local knowledge being undervalued (Brown, 2008). Understanding which sources of knowledge are relevant to the research, including those inside, between and outside academic disciplines, and gaining access to them in a structured way, is a key challenge for the researcher. This is where organising frameworks that recognize diverse sources of knowledge and the linkages between them can be put to use.

3.2.2   Organising frameworks

By its very nature a complex social problem is a composite of a variety of positions of interests, perspectives, experiences, knowledge and contexts. Where social problems are concerned with natural resource management there is an additional complexity: the varying nature of the resource itself. As Berkes and Folke (1998) point out, conventional resource management has typically failed, in part because resources have been exploited as commodities and in part due to lack of holistic resource management techniques. In particular they point to deficiencies in understanding the resource user, or the people side of resource management. They suggest that the linkages between social and biophysical aspects of resource management can be incorporated in an analytical framework to mobilise "a *wider range* of considerations and sources of information" than traditional approaches (Berkes and Folke, 1998:3, emphasis in original). This 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). In their framework, shown in Figure 3.1, Berkes and Folke (1998:15) include patterns of interaction between the ecosystem, people and technology, local knowledge and property rights, and these have implications and outcomes for a sustainable society.
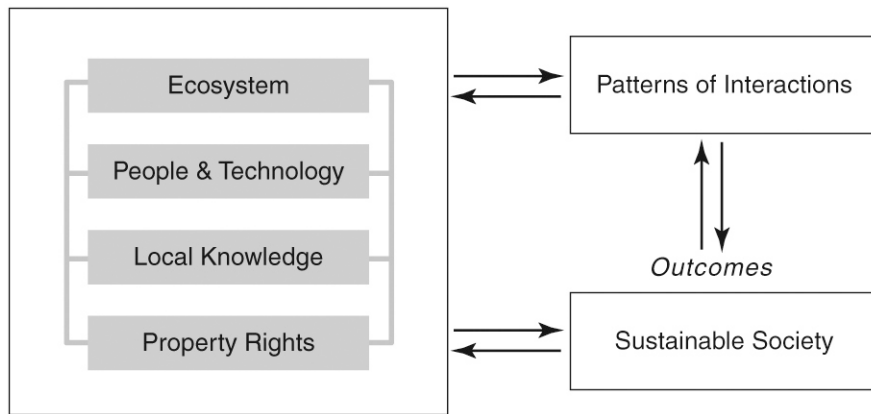
Figure 3.1 A framework for analysing the link between social and ecological systems

(Source: Berkes and Folke, 1998:15)

Boyden (2009) presents a framework along similar lines, shown in Figure 3.2, in which the relationships between cultural systems and the biophysical environment can be identified. Boyden's framework places emphasis on the impact of human activities resulting from the dominant culture and associated societal arrangements. Here, human activities are seen as biophysical *options* that have a direct influence on the biophysical environment. These biophysical options have an impact on the health and well-being of both humans and the ecosystems in which they live.
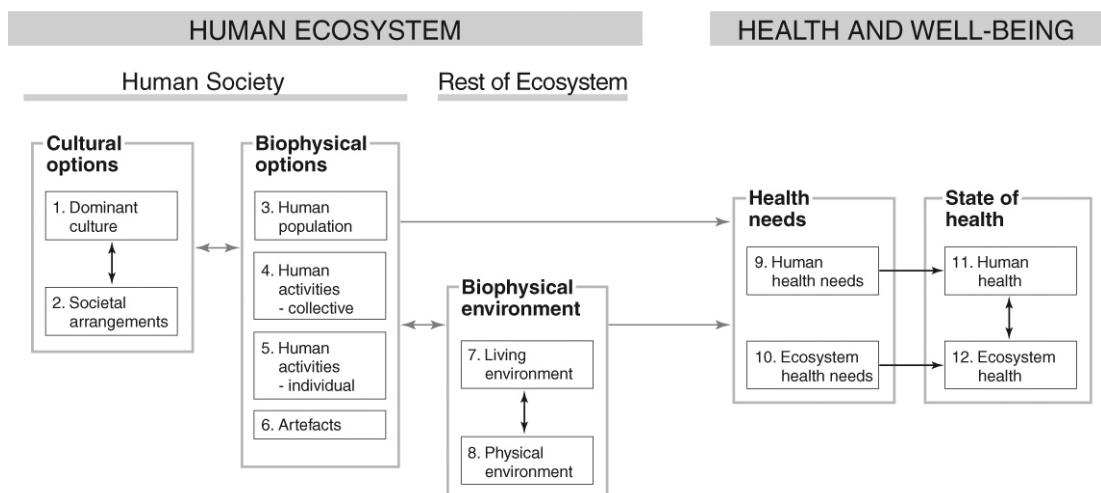
Figure 3.2 A human ecology framework to analyse cultural and biophysical options

(Source: Boyden, 2009:1/1)

The point of Boyden's framework is that human societies and communities have choices available as to their actions and which options to take, but this is heavily influenced by the dominant culture. As described in the section above, a dominant culture develops a philosophical position or worldview and as we have seen, this has a direct influence on how natural resources are perceived and used. Societies can decide whether resources or entities which are part of the living environment, such as an important ecosystem or an individual species, should be considered as a public good and included in their scope of ethical consideration or justice.

In summary, these organising frameworks have three main purposes. First, they recognize the links between human societies with their cultures that strongly influence interactions with the living environment. Second, they encourage the researcher to consider a broad range of knowledge sources in the development of the analytical approach and third, they can assist in the ordering of the empirical part of the research process.

3.3   *An adaptive and qualitative research approach*

3.3.1   The research approach and the qualitative / quantitative divide

Having decided to use an organising framework the next steps are to select appropriate research tools and identify the sources of knowledge to be explored. 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 to 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 elements from the compound problem. However, the discomfort of working outside disciplinary boundaries and their well-established and accepted research methods must not be overlooked (Braud and Anderson, 1998; Russell, 2005). For example, the qualitative–quantitative divide still exists (Dovers, 2005b) and research that uses case study and qualitative approaches can still be challenged on the grounds of lack of precision and rigour (Yin, 2003).

Russell (2005:35) acknowledges the "tricky task" faced by universities in encouraging transdisciplinary research even though it has become broadly accepted in many research agencies and organisations. She describes institutional obstacles such as traditional disciplinary frameworks and preferences as well as the difficulties of assessment and funding (Russell, 2005). Disciplinary preferences for particular research methods also act as barriers to integrated research, for example in the preferences for qualitative or quantitative methods (Dovers, 2005b). Minichiello *et al.* (1995:9) summarise qualitative research as being "attempts to capture people's meanings, definitions and descriptions of events" whereas quantitative research "aims to count

and measure things". However, this may be an over-simplification that exacerbates the divide. I propose that these summaries should be qualified by an observation by Richards (2005:36) who suggests "qualitative and quantitative data do not inhabit different worlds. They are different ways of recording observations of the same world". This perspective is echoed by Ashley and Boyd (2006) who review quantitative and qualitative research approaches in environmental management and report the dominance of quantitative research. They conclude that integration between the two approaches is needed to look at the "big picture of environmental management" (Ashley and Boyd, 2006:76). Also comparing these two research approaches in rangeland management, Sayre (2004) argues that qualitative research is necessary to understand the management of rangelands by ranchers. He points out that the majority of studies use quantitative research methods but these have failed to show *why* ranchers make decisions, particularly concerning rangeland management practices. Sayre (2004: 669) puts the case that "qualitative methods are capable of discovering factors that are unanticipated and thus undetectable using purely quantitative methods". He points out that it was in fact agricultural economists who perceived the shortcomings of a purely quantitative approach, which had been used for many years in rangeland management research. Interestingly, these shortcomings were perceived because researchers realised that the commonly-assumed "profit motive" was *not* the only motivation and that quantitative methods had failed to uncover these other motivations (Sayre, 2004:671).

I include Sayre's (2004) findings as an illustration here, not only to show the value of qualitative research, but to recognize that there is an ongoing and current debate around the use of methods. It is also interesting to note that the notion of self-interest has cropped up in this debate on choice of methods as well as in philosophical discussions about how humans perceive nature (Section 3.1). In summary, it is important to recognize the research challenges presented by the choice of research method, but the overall goal of the research design must be to address the research problem while recognizing the perceived strengths and weaknesses of the methods chosen.

3.3.2   A qualitative approach using semi-structured interviews

The research methods literature offers categories of the different types of research and appropriate methods for each different type (Braud and Anderson, 1998; Silverman, 2005). "What and why" questions are typically described as exploratory where little is known about the situation, in which case the qualitative approach, such as an interview, is an appropriate first research method (Braud and Anderson, 1998; Wengraf, 2001). In this research the case studies centre on community protests about water allocation decisions: the impacts of the decisions and reasons for the protests are being explored. Central research questions are: What do you think was at the heart 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 (Minichiello *et al.*, 1995).   In a semi-structured interview the researcher works from an interview guide or set of questions but these are used as a guide only: the researcher has the flexibility to ask questions in a different way or in a different order or use a different subset of questions. The semi-structured interview is akin to unstructured in-depth interviewing in that it allows an in-depth exploration of people's experience and perceptions while still addressing the main interests of the research (Minichiello *et al.*, 1995, Wengraf, 2001).

3.3.3   Adaptive theory: connecting theory and empirical data

The way in which the empirical part of the research process is connected to the theoretical aspects of the research and the continuing relationship between research practice and theory is the central feature of Layder's (1998: 37) "adaptive theory".   At the heart of adaptive theory is the continuing engagement between theoretical aspects of the research and the empirical data. The actual process of the research is a continuous cycling between theories and the empirical findings, with each rotation cycle resulting in new explorations. I frequently visualise adaptive theory rather like the double helix of RNA and DNA which appear as two slowly revolving strands as depicted in Figure 3.3.
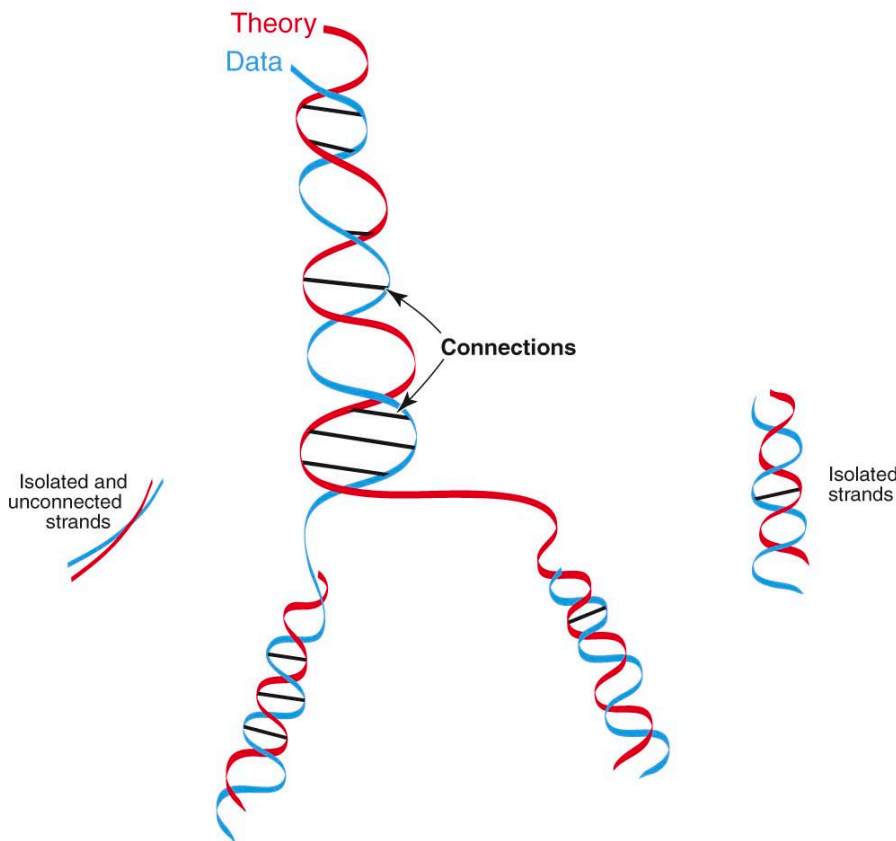
Figure 3.3 Adaptive theory: engagement between theories and empirical data

In adaptive theory one of these strands represents theory and the other represents empirical data. Where they come close together, links and temporary or permanent connections can be made. Information can pass from one strand to another in either direction. New strands can emerge where theory and data combine to create new findings, constructs or theories. Some strands join up to become incorporated into a main theme, whereas others remain isolated or unconnected. As the researcher becomes involved with the data there can be an almost automatic mental cycling between empirical data and theories as new thoughts, connections and discoveries are made. As Layder (1998:133, 136) puts it "Adaptive theorising is an ever present feature of the research process" and "in any particular research project… there will be a mutual interplay of influences rather than a single directional flow".

As described earlier (Chapter 1) this research builds on an earlier research study in which adaptive theory was used (Gross, 2007). The research described here therefore has its roots and origins in an adaptive research outcome from that earlier study. In that study an investigative framework was used to explore community perspectives of a proposed wind farm development. The theories and concepts from that study can be considered "orienting concepts" (Layder,1998:101) because they provide background and early direction for the next research project. The justice theories and concepts described later (Section 3.4) which are used in the investigative framework are selected from those early orienting concepts but also include others that emerged in the course of the research. The iterative cycle of adaptive theory allows the researcher to constantly think about and probe the empirical data in the light of background theories, such as those described in Chapter 2. It gives the researcher freedom to think from the ground up (the empirical data) or down from the more abstract theoretical level. Theories can be examined in the light of a specific social context, lived experience or interviewee perspective. The researcher can choose which theories are relevant to the research area and in turn the empirical data can resonate with and "speak to" the theories. In summary, adaptive theory, while being a powerful research approach is also one that naturally fits the exploration of complex social problems and allows the researcher to work intuitively in the middle ground between theory and data. I now turn to the investigative justice framework which is where theory meets practice at the start of the empirical data collection process for this research.

3.4   The investigative framework and research tools

3.4.1   The investigative framework

The investigative framework, shown in Table 3.1, consists of two sections: a contextual background and a set of semi-structured interview questions. As described earlier (Section 3.2) an organising framework such as this investigative framework has three primary purposes: to consider linkages between human societies and their interactions with the living environment, to consider a broad range of knowledge sources and to assist in the ordering and structuring of the empirical data collection. Here the sources of knowledge are drawn from justice theory, the

historical context, current institutional arrangements and findings from the local community. The framework also needs to recognize that context changes, even as the research takes place, because events continued to unfold and people's experiences as a result of those events continued to evolve throughout the research process.

Table 3.1 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 of interviewees	Occupation, connection with area, position in community, membership of groups and community or industry activities
	Concepts of fairness and justice	Conceptions of the terms fairness and justice in the abstract and external to context
	Understanding cause of issue and involvement	Awareness of the issue, attitude to the issue, what is at the heart of the issue, attendance at protest or membership of opposition group, personal opinions
	Level of interest in issue and reasons for interest (Adapted from Skitka's Accessible Identity Model, 2003).	Exploring how the issue affects the individual and community in terms of material, social and personal impacts.
	Elements of process (Based on procedural justice principles described in Chapter 2)	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 at the heart of the conflict
	Interviewee suggestions	Exploring what could have been done differently to achieve a more acceptable or better outcome

The semi-structured interview questions (Appendix C) draw on the theories and constructs of justice described in Chapter 2, particularly Skitka's (2003) Accessible Identity Model and the principles of procedural justice. The questions are designed to sequentially draw out interviewees' perceptions of the social conflict, starting with their abstract notions of justice and fairness and progressing through the individual elements of the decision-making process. The

final questions are concerned with how individuals evaluate the overall process and outcome in terms of fairness and justice and their suggestions for how things could have been done differently. Skitka's Accessible Identity Model was chosen because it recognizes that the situation can have a variety of different impacts on a person or group, and that these can be material, social or personal, rather than a commonly held view that material self-interest is a prevailing and overriding factor (Chapter 2). The Accessible Identity Model also acknowledges that a person needs to have some level of engagement with the situation to think about it in terms of fairness and justice (Skitka, 2003). This choice of construct was driven by earlier empirical findings (Gross, 2007), and demonstrates adaptive theory at work (Sections 3.3 and 3.5) in that this research builds on previous research. The Accessible Identity Model is used here primarily as a way to explore the different impacts of an action or decision on people affected by that action or decision. It is used as a structured way to discuss impacts with interviewees. Giving interviewees the three categories (material, social and personal) to think about encourages them to think broadly about the impact rather than in terms of the most obvious one.

3.4.2 Research tools and ethical guidelines

Prior to embarking on the fieldwork, an important step in the research process was to consider the ethical implications of the research, particularly in relation to the interviewing process and how information and data would be gathered, used and stored. A research protocol was developed in accordance with National Health and Medical Research Council ethical guidelines (NHMRC, 1999), which was then submitted to the Australian National University Human Research Ethics Committee. The research protocol outlined details of the research including, for example, the purpose and design of the research, sources of data, recruitment of interviewees, protection of privacy and confidentiality of participants and information, and how the research might impact participants. The research Protocol 2006/160 was approved on 24 August 2006.

The benefits of working through these ethical guidelines and gaining approval were evident in many ways. The development of research tools, such as a consent form for interviewees to sign (Appendix A), an information sheet on the research (Appendix B) to give to interviewees and clarifying how interviewee privacy and data confidentiality would be maintained, were critical to the success of the research process (described further in Section 3.5). Thinking about how the research might have an impact on participants was also useful in developing my own guidelines for how I would deal with interviewee questions about what I thought myself about the subject matter of the interview, such as my views on the social conflict. To clarify my own position as a researcher I included a statement of impartiality on

the information sheet handed to interviewees, but also started the interview by confirming my impartial position and the confidential nature of the research (Section 3.5).

Another research tool which served as a useful reminder and prompt were two 3 x 5 inch cards placed in front of the interviewee with the terms "justice" and "fairness" written in large letters. In the second case study I also included a third card with "injustice" in large letters. This was first of all to set the scene about the subject matter of the interview. It was also a useful way of inviting interviewees to focus on fairness and justice, particularly when I asked them at the start of the interview to describe their own conceptions of fairness and justice. I found this to be a valuable tool during the interview process with interviewees frequently pointing at the cards to emphasise a point.

3.4.3   Direct and indirect questions: a problem

Qualitative research involves questioning techniques in which different *types* of questions can be asked. For example, open questions encourage an interviewee to give a full and detailed response whereas closed questions elicit a brief answer. Researchers using qualitative methods are advised to avoid the use of leading questions which contain a suggested response within the question itself (Legard *et al.*, 2003). In justice research Mikula (2005) warns justice researchers about the dangers of using direct and indirect questions about fairness and justice interchangeably. For example, a *direct* question would be "do you regard the procedures used as fair?" whereas an *indirect* question related to procedural justice might ask "were you invited to express your view during the process?". Mikula (2005:201) regards only the direct question as a question that can "actually tap perceived justice" whereas indirect questions make an implicit connection between perceived justice and the question being asked. Mikula (2005:202) argues that it is conceptually misleading to "call measures of variables that may contribute to the perception of justice as measures of perceived justice".

I include Mikula's perspective here because it is an important point and goes to the heart of an interviewing process and perhaps even the research itself, as Chapter 2 indicates. Making the connection between how somebody perceives an element in a process and whether that can be attributed to perceived fairness or justice is an area that needs careful consideration. In this research the design clearly spelled out to interviewees that the subject matter of the interview was fairness and justice, thereby reducing the risk of falling into this trap. The 3" x 5" cards on the table in front of the interviewee with the terms "fairness" and "justice" displayed as well as the information sheet and my introduction made the point quite clearly. The evaluative questions about the process and outcome were also direct questions about fairness. Even so, lack of clarity about questions and lack of distinction between constructs is a distinct danger in any justice research.

3.5   The adaptive research process: fieldwork and data analysis

3.5.1   Introduction: adaptive theory at work

Twin themes of this research that have strongly influenced the research process have been first, the adaptive and iterative nature of the research process and second, working in the "middle ground" between theory and data that I described earlier (Section 3.3). In this section I provide an account of the adaptive research process and describe how the fieldwork took place. However, before presenting the detail of this I now provide a brief overview of the way the research process developed. As described earlier (Section 3.3), adaptive theory gives the researcher the freedom and flexibility to develop the research process and adapt it as it progresses, rather than working within a fixed, inflexible research design.   I took advantage of this flexibility in the empirical data gathering as follows. From the first case study (Chapter 1 and see next paragraph) I realised that I needed to give the interviewees more freedom to say what they wanted to say, so I simplified the questions. From the second case study (Chapter 1 and discussed later in this chapter) I realised that some interviewees were willing and had the ability to engage with the subject matter of the interview on a different, higher level than just talking about the facts of the conflict and their perspectives of events. From their comments I could see that they could easily engage in a higher level discussion of justice and fairness that included the conflict but also drew further implications beyond it. This led to the design of "round three" which entails key informant interviews with specifically chosen interviewees. These interviews differed from those in the case studies because I shared the findings of the case studies with the interviewee and talked about my research openly in order to generate a broader discussion of the issues: the interview process was a two-way conversation. While round three is described later in the section, the main point here is that the concept of round three emerged from the experience of interviewing in the preceding case studies. Figure 3.4 depicts this adaptive research process whereby research experience and research findings are used adaptively in the design of the next step of the research method.

Methods Development
Adapting interview questions and guaging answers
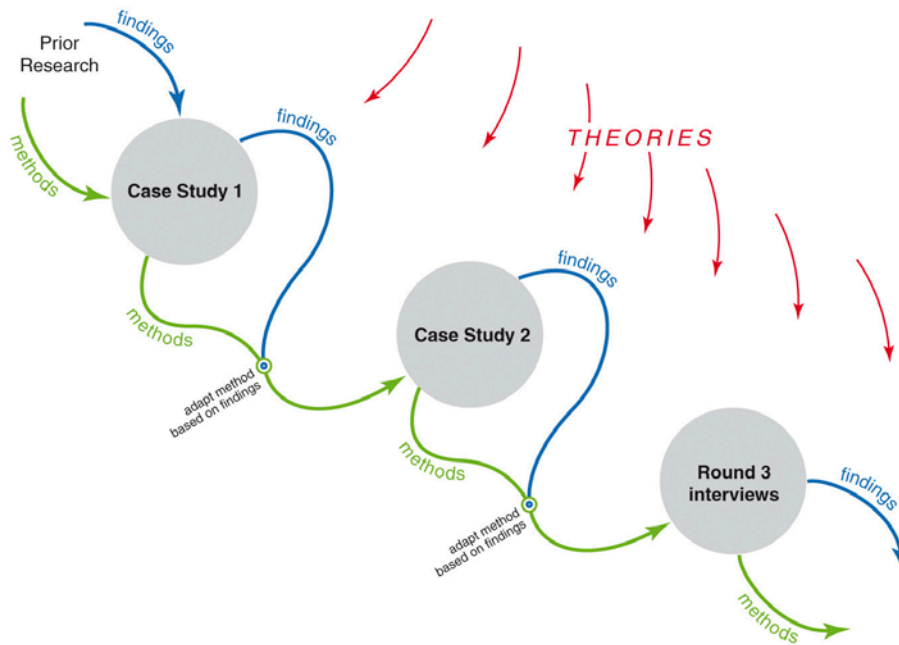
Figure 3.4 Adaptive research: methods development

3.5.2   Overview of the NSW carry-over water study and the Victoria pipeline study

The two case studies, introduced in Chapter 1, were chosen because they involved important water-related societal issues and were also active social conflicts at the time. The first concerned a 2006 government decision over irrigation water allocation in the state of New South Wales (NSW), which I describe here as the "NSW carry-over water study". My attention was drawn by a newspaper headline in the *Sydney Morning Herald*, a metropolitan newspaper, "Water thieves leave farmers parched" (Lewis, 2006) which described a rally organised by irrigation farmers in protest at the government decision. That this had caught the attention of a metropolitan newspaper and involved 2000 or so protesters was sufficient information for me to realise that this was a significant conflict in which matters of fairness and justice were likely to be salient. The second case study was located in the state of Victoria and concerned the North South Pipeline and Food Bowl Modernisation Project initiated by the Victorian government in 2007. I refer to this as the "Victoria pipeline study". The Victoria pipeline study is also characterised by significant social conflict manifested as protests in several rural locations in Victoria as well as in Melbourne, the state capital. However, the Victoria pipeline study differs from the first case in that several communities were involved in the protest and the water dispute centres on water being transferred from one catchment area to another through a newly constructed pipeline. The Victoria case study is therefore more complex and has broader ramifications than the NSW case study. The case studies are described in Chapters 5 and 6

which provide the first level of analysis. While the case studies do have similarities and differences, the aim of this research is not to explore these *per se*, rather it is to explore the case studies for themes relating to people's perceptions about fairness and justice decision processes and outcomes.

3.5.3 Interviewee selection and the interview process in the two case studies

An important objective of the research was to explore as full a range of perspectives of each social conflict as possible and this was the driving force of interviewee selection. I started the interviewee selection process by networking with my own academic and research contacts, such as those from conferences and other events, by asking if they knew someone with knowledge of the region and social conflict who might be a good starting point for my interviewee selection process. From this point interviewees were selected using the snowball or networking method (Ritchie *et al.,* 2003) whereby each interviewee was asked to nominate further interviewees they thought would share different perspectives on the conflict. Interviewees usually had some degree of awareness of their nominees' perspectives about the conflict and whether they were opposed, neutral or in favour of the issue. Different perspectives could be obtained from a diverse range of stakeholder groups within the communities such as irrigators, dry-land farmers, conservationists, small business operators, local government employees, landholders affected by the pipeline construction in Victoria, tourism operators, elected councillors, retirees, members of industry associations, professionals such as accountants or teachers, and government agency representatives. Interviewees were chosen according to the different perspective they might hold and their attitude to the decision or project: those opposed, those in favour and those who were undecided, neutral or midway between these positions.

I contacted potential interviewees by phone (or infrequently e-mail), explained my research, and arranged to meet them at a location of their choice which could be their home, workplace or a local cafe. Interviewees were provided with an information sheet on the research (Appendix B) and were asked to sign a consent form (Appendix A). I emphasised the confidentiality of the research and reassured interviewees that their identity would not be disclosed and that publications would exclude identifying information. After receiving permission[1] I recorded the interviews with a digital recorder and made notes as the interview progressed. After the interview had finished I thanked the interviewee and later made some summary notes about the impressions gained from the interview and the most important points raised by the interviewee. This formed an important part of my analysis because the interview

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[1] Only one interviewee did not give permission to record the interview

was fresh in my mind and I found that each person generally made between three and ten key points that could be captured by this first-level analytical process.

I continued interviewing in the two case studies until I felt that I was not gaining any new perspectives or significant insights into the conflicts (coincidentally, in both case studies this was after 43 interviews, making a total of 86 for the case studies). In qualitative research this is known as "saturation" which is where "nothing new is coming up" (Richards, 2005:135). However, in the NSW carry-over water study I was unable to interview anyone from the government department responsible for the water cutback decision. I put the lack of response to my interview request down to rumours of legal action at the time. It would have been difficult for any government employee to speak freely about the matter. However, I was able to interview government agency employees in NSW and Victoria in round three.

In the first case study I was also interested in gathering facts about irrigation communities as well as obtaining detailed information about the conflict. I wanted to understand what the different types of stakeholder groupings in the community were and how interviewees fitted into these. An early finding was that it was difficult to distinguish clear boundaries between stakeholder groupings: many people had played several roles within communities and wore several different hats, so to speak. In fact, the notion of stakeholder groupings in this research was not a useful categorisation. Importantly, another objective was for me to understand as much as I could about the social conflict in question: there was little information publicly available in either case study to provide a detailed overview. While the media ran frequent articles about aspects of the Victoria pipeline study (for example, Ker, 2008; Davidson, 2008; Wallace, 2008) there was little detailed information publicly available from the proponents or the opposition groups.

3.5.4   The NSW carry-over water study fieldwork

The fieldwork was carried out in two stages. In the first stage 12 interviews were conducted in the Deniliquin area of NSW in January, 2007. The interview questionnaire was then modified slightly to simplify some questions. The second stage of interviews was carried out in the same area in February, 2007. A total of 43 interviews were conducted. All the interviews took place after the government decision to cut back the water allocation and after an Extraordinary Assistance Package had been announced (Chapters 4 and 5).

3.5.5   The Victoria pipeline study fieldwork

The fieldwork was carried out in Victoria in September and October, 2008. During this period 43 interviews were conducted. Nineteen of these were in the Yea district to the north of Melbourne (the area affected by construction of the North South Pipeline), two interviews were conducted in Melbourne and the remainder took place in the Goulburn Murray Irrigation District (where the Food Bowl Modernisation Project was about to start) in the state's north.

The interviews took place before the pipeline construction work had started, although work crews from the construction company were arriving in the Yea area and assembling worksites and making preparations. In the irrigation district the interviews took place while the Northern Victorian Irrigation Renewal Project was setting up as an entity but before the Food Bowl Modernisation Project work had started in earnest (Chapters 4 and 6).

3.5.6   Overview of round three fieldwork

As described at the start of this section, the concept of round three emerged while I was conducting the second case study. During the Victoria fieldwork I realised that some interviewees had experiences of decision-making processes that enabled them to engage with issues of justice and fairness at a higher level than many other interviewees. Thus in round three key informants were chosen on the basis of their experience and knowledge of natural resource management and their current position in government, politics, agriculture or natural resource management. My aim was to find people in senior positions well-experienced in the issues embedded within the conflicts, and who would be generally familiar with the interactions between farmers, governments and government agencies and associated social tensions. I interviewed 10 key informants who fitted these criteria and who were familiar with the two case studies, some in more detail than others. These key informants were located in the Australian Capital Territory (ACT), NSW and Victoria. None of these informants had been interviewed previously. The 10 interviews were conducted in November and December, 2008. Each was conducted along similar lines to the interviews in the two case studies, described above, the only difference being the discussion within the interview.

In round three interviews I started the interview by describing my research, including the concepts of procedural justice and distributive justice, and outlining the findings from the two case studies. I then asked each interviewee for their perspectives of either or both of the case studies, depending on their experience and knowledge of them, and what they thought in general about procedural justice and distributive justice in natural resource management. While I did have a set of questions to guide the interview, the majority of the interviews were conducted as open discussions or conversations around the findings of the case studies, experiences recalled by the interviewees and fairness and justice themes that emerged.

3.5.7   The interviewing experience: establishing empathy and being adaptive

> An interview is both the most ordinary and the most extraordinary of ways you could use to explore someone else's experience – it is as ordinary as conversation, and as amazing as a brilliant film. It offers insights you never expected would come your way. (Richards, 2005:38)

It is useful to reflect on the interviewing experience and how this influenced the research process. As Richards neatly summarises in the quotation above, a research interview is

multifaceted and the researcher must operate on many levels to gain insights, both from the interview experience itself and from what the interviewee is saying. This is important for the research process as well as the research content. How the researcher establishes rapport, how questions are asked and how the researcher adapts the interview process to interviewee responses are all important aspects of the interview (Wengraf, 2001; Legard *et al.*, 2003). The researcher must also consider maintaining continuity between interviews: for example, asking questions consistently yet recognizing that some questions will not be relevant in all interviews. There are two areas of the interviewing experience in this research that I highlight. First, establishing rapport and empathy with the interviewee and second, being reflexive and adaptable about questioning within the structure of the interview.

Setting up the interview so that the interviewee felt at ease with the research topic and purpose of the research was an important first step in interviewing and critical to the success of the research as a whole. The research tools described above (the information sheet and consent form) established the research context and that matters of confidentiality were understood and had been thought through. I was then able to engage with interviewees on a number of levels due to my background in farming, knowledge of the industry and interest in rural matters. I was able to talk as easily and comfortably with dairy farmers as I was with academics or executives. During the interview I was sensitive to how people wanted to talk about the issues: the way people responded to questions was very different. Some talked nearly non-stop about the topic for the first part of the interview, whereas others needed drawing out through sensitive questioning. It was important that I sensed where the discussion was going and how people wanted to tell me what they felt was important, and this sensitivity enabled me to conduct the interview with empathy while retaining some structure (Wengraf, 2001). In several cases interviewees became quite distressed talking about close, personal impacts of the social conflict: I needed to be sensitive about these insights which were clearly troubling to them. Having the cards on the table with "justice" and "fairness" (to which I added "injustice" in the second case study) contributed to the sympathetic nature of the interview because people were reminded that my research was not so much about the conflict in particular but that I wanted to understand what they thought about fairness and justice through the conflict. This was a subtle but important nuance: while I was connected as a researcher to the social conflict through the interview I was also kept at a distance from it by my overall research aim. People were therefore comfortable to share general thoughts about fairness and justice as well as divulge specific views on the conflict.

A further area in which I adapted the interviews was in the questions about the decision-making process. These questions were arranged to follow specific aspects of the process (for example, notification, information, timing, being treated with respect) and in some interviews these were not relevant where the interviewee had not experienced the full process. In some cases the interviewee had already described aspects of the process in their opening remarks and

following the exact questioning structure involved repetition. As a result of this experience in the first case study I made the questions more open in the second case study. This adaptation proved useful in the second case study because interviewee's experiences of the social conflict were markedly different from community to community. Some were involved in aspects of the decision-making process whereas others had no involvement at all and were bystanders. The interview needed to be approached with flexibility to adapt to the interviewees' experience of the conflict. Finally, and importantly, I changed the question about being treated with respect between the two case studies to make this a more open question in the second case study. The question "do you feel you were treated with respect?" became "how do you feel you were treated during this process?" (Chapter 8).

3.5.8   Dealing with the data: transcribing, coding, analysis and writing

After the fieldwork the interviews were transcribed and the data stored. As noted earlier the analysis started during the interviewing process with the summary field notes. The analysis then became an ongoing activity throughout the subsequent transcribing and coding processes. I constantly recorded ideas, isolated thoughts, connections with the theory and connections between aspects of the data. Transcribing each interview gave me familiarity with the data: transcribing was rather like a re-run of the interview. The investigative framework helped structure the formal analysis into question areas which could then be summarised. For the first case study I used the software package NVivo to organise interview extracts around questions. Use of the investigative framework was helpful in the analysis because it already grouped questions into areas and effectively constituted the first step of the analysis. This organising into categories or groups is known as coding (Richards, 2005). The activity of coding encourages the identification of themes relating to the groups of data coded and helps isolate groups and distinguish between them. As Richards (2005: 86) describes it "the goal is to learn from the data, to keep revisiting it until you understand the patterns and explanations".

After completing the first case study interviews I wrote a paper describing the methodology and preliminary findings from that case study. After peer review this was published in *Human Ecology Review* (Gross, 2008). I then wrote a second paper which I presented at the International Society for Justice Research conference held in Adelaide in August 2008. This paper described the key finding of perceptions of injustice in the NSW carry-over water study. The paper was submitted to *Social Justice Research* following the conference. Extracts from both these papers are incorporated into this thesis.

Findings Interplay
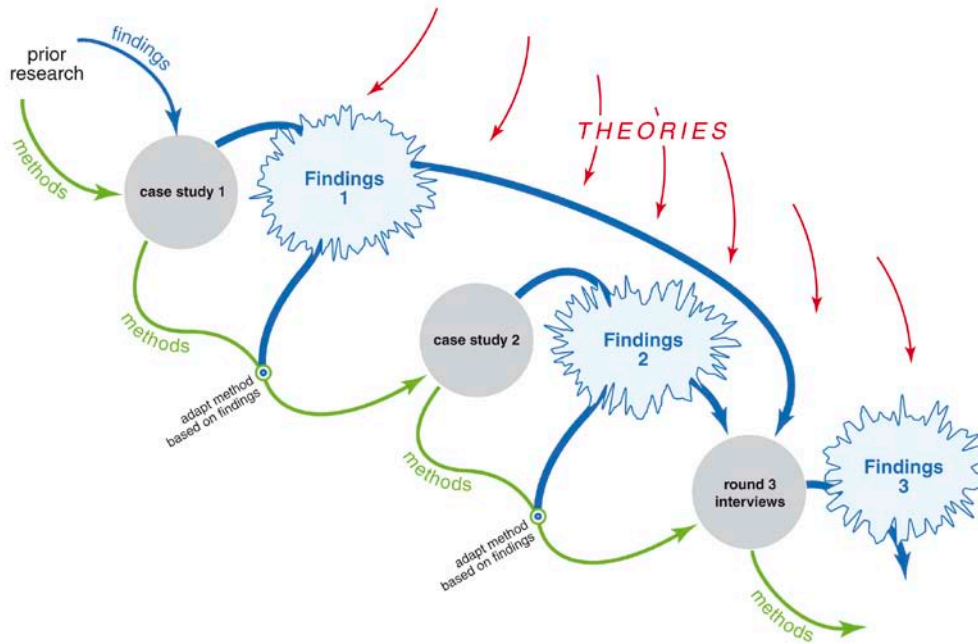
Figure 3.5 Adaptive research: findings interplay

Analysis of all three studies involved a constant cycling between theories of justice and the data. Insights across these studies were developed, elaborated upon, examined and compared. These findings and theory interplay is depicted in Figure 3.5 which shows how the findings from each case study built on each other and were used as input to the next phase of the research. The process of analysis was iterative and in many ways unstructured. The data revealed rich insights with a vast array of perspectives: associations with theories virtually leapt out of the data from all angles. The process of analysis was both exciting and frustrating at the same time. It was like mining a rich vein of raw materials containing nuggets and slivers of a whole range of different minerals: connections between the data and theories came frequently and often. What was frustrating was that these were difficult to tease out and organise into a structure.

3.6   Summary

This chapter has described the different layers of the research approach and how the research design has developed through philosophical considerations to its methodological stance and from there to the detailed research approach and research tool design. The chapter has described the benefits (and some challenges) of a holistic and transdisciplinary research approach in which diverse sources of knowledge and linkages between social and ecological systems are organised in a research framework. Also shown in this chapter is how this inclusive approach can incorporate and mesh well with adaptive theory. The research process itself can be adapted while patterns, relationships and connections between theories and empirical data emerge.
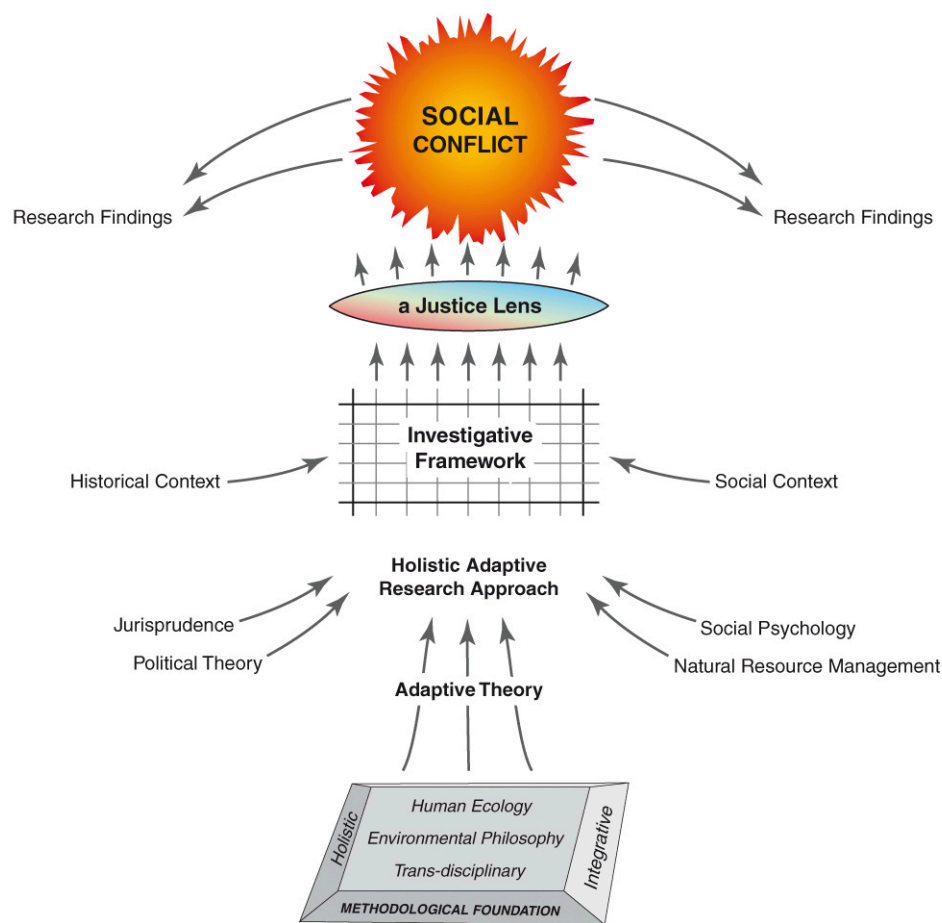
Figure 3.6 A holistic and adaptive research methodology

The chapter has also described the research tools and the way in which these were deployed in the semi-structured interviews of the fieldwork. The investigative framework with its adaptable question set was shown to be a useful tool to draw out perceptions of fairness and justice across multiple perspectives and through two case studies. The combination of this framework and the sympathetic interviewing approach has shown that this research approach has been effective in gaining an understanding of a social conflict in what could be perceived as a sideways, gentle approach to the conflict rather than tackling the pros and cons of each conflict "head-on". In other words, the combination of the research tools and the interviewing approach encouraged interviewees to share perceptions about what they thought was right and wrong from a fairness and justice perspective rather than talking in absolute terms about what was right and wrong in each social conflict. The holistic and adaptive research methodology described in this chapter is presented diagrammatically in Figure 3.6. This shows the development of the research approach from its beginnings in human ecology through to its investigation of social conflict using a justice based framework.

This chapter brings the research to the point of data analysis. The next chapters present different layers of the data analysis. Chapter 4 provides the contextual information about water in Australia, and presents background information relevant to the two case studies. Chapters 5 and 6 then provide the first level of analysis for each case study. Their purpose is to give the reader a general overview of each conflict by presenting the wide range of the perspectives about the conflicts and why people held these perspectives and viewpoints. This overview is only made possible through the interviewee perspectives; as discussed earlier there was little information in the public domain available which could provide such a description of each social conflict.

Chapter 4:   Context - water in Australia

The River Murray, Barmah Choke, Deniliquin, NSW, January 2007

The Edward River Offtake Regulator, River Murray, NSW, January 2007
(Photos: Catherine Gross)

The purpose of this chapter is to provide a background context of water in Australia for the research and case studies. The topic of water in Australia is highly complex and a chapter such as this could go on forever. Therefore the chapter focuses on providing a background and scene-setting for the case studies.   This background includes the culture of water in Australia, the biophysical context and an historical overview of the development of water management in Australia. The chapter outlines the development of irrigation and some associated institutional arrangements in NSW and Victoria, the two states in which the case studies are located. Some recent water reforms are described as well as some water management arrangements in place at the time of the case studies. The information in this chapter is derived solely from the literature and publicly available sources. The contextual background information for each case study is further developed using information gathered from interviewees which is presented in Chapters 5 and 6.

4.1   *Water in a dry country*

4.1.1   Water for life and culture

> Access to water affects the quality of life for people at all levels, from survival to the arcane levels of spiritual considerations (Syme and Nancarrow, 2008:233)

In the vast and mainly dry continent of Australia, water is not only a scarce natural resource: it is arguably the most precious and valued resource for all life forms. In a country where the variability of rainfall is extreme and where the natural cycles of devastating droughts and floods are well-known, it is natural to expect that water conservation and management have been important human activities for thousands of years. There is however, a variety of time-scales and levels on which individual and societal arrangements about water have taken place. These range from thousand-year old practical techniques used by Aboriginal people to store and conserve water, even in what would appear to be waterless country in the dry interior, to the modern large-scale infrastructure and institutional arrangements by which communities in cities and urban settlements receive their reticulated water supply.

C.J. Lloyd, in his opening chapter on the history of water management in NSW, summarises Aboriginal water management: "Aboriginal people were exploiters, conservators, managers and manipulators of water resources… very little of the fundamental elements of hydrology and hydraulics eluded them" (Lloyd, 1988:12). He paints a detailed picture of Aboriginal people as being skilled and innovative not only in finding and conserving water, but also in creating a variety of permanent pools, traps and dams to catch food such as fish, eels and the like. Ironically, this local knowledge was not widely appreciated by European settlers. Even though early explorers tapped this aboriginal knowledge to find water in the dry inland, and settlers subsequently developed stock-routes as a result of this information, white settlers

were yet "patronising, even contemptuous, about Aboriginal water management" (Lloyd, 1988:20). Such attitudes—perhaps based on a lack of empathy and understanding—could be said to have persisted until the current day. For example, a 2002 report highlighted the lack of acknowledgement of Indigenous water rights in national water reforms and the lack of involvement of Indigenous representatives in contributing to the reform process (Jackson and Morrison, 2007). Indigenous rights have now been acknowledged and Indigenous interests in water have been recognized and incorporated, to some degree, into national water reform (Jackson and Morrison, 2007). In addition, Indigenous *philosophies* about water are now being included in discussions on water planning for the future (Weir, 2009).

Water is not only a daily necessity for the maintenance of life. For Aboriginal communities and white settlers alike it is, or can be, intrinsic to any aspect of culture: livelihoods, traditions, values, mythology and spirituality. It is essential to individual and social well-being from a range of perspectives. For indigenous societies water is but one element in a landscape and society in which *connectivity* between all elements is the key perspective (Weir, 2008). Weir (2008:155) elaborates: "traditional owners speak of a connectivity that encompasses, and goes beyond, food web dependencies to include stories, histories, feelings, shared responsibilities and respect". Thus Aboriginal people living next to a river would see their lives connected with the river "as an embodied experience" (Weir, 2008:156). Although it is now well understood that Aboriginal people have distinct cultures based on their connectedness to the natural environment in which they live, the same can be said for white settlers, their descendants and other immigrants, who also have connections with water and ways of perceiving water and the landscape in which they live (Weir, 2008). These ways of connecting with water can range from the traditional annual holiday at the local riverside caravan park in which swimming and fishing are the main attractions, to the often-unexpressed attachment to a river, creek or billabong that holds special memories or meanings.

Whole river systems have also become symbolic and important in the nation's psyche: the Snowy River and River Murray, both rising in the Snowy Mountains, are two examples of river systems which have achieved national iconic status and are a long-standing source of national pride (and concern), poetry and literature. For example, the poem "The Man from Snowy River" written by Australian bush poet, Banjo Paterson, was published in 1890 (Paterson, 1953) and remains a household name to this day. Similarly, C.J. Dennis, a poet who was well-known in the early 20th century, published a poem "Snowy on the Spree" in the *Herald* in 1934 describing the "wild, wild Snowy River" (Wigmore, 1968:12). Thus the iconic status of the Snowy River was well established before 1967, which was when the Snowy Mountains Hydro-Electric Scheme (described below in Section 4.2) started diverting 99% of the headwaters of the Snowy River to the inland (Snowy River Alliance, 2009). This major development had its origins in an era in which the primary drivers were population expansion and economic development and in which society generally accepted the large-scale exploitation of natural

resources as one way of achieving societal goals. But this came at a cost to the Snowy River, with the diversion of its water. People's concern about the environmental impact on the lower reaches of the river caused by this large water diversion has resulted in a long, bitter and complex struggle (Snowy River Alliance, 2009).

Thus, there are differing perspectives and philosophies about water and how it is perceived, managed and used in the Australian landscape and context. The types of cultural differences described above have stimulated a range and diversity of activities, leisure pursuits, livelihoods and ways of thinking about water. These ways of thinking can be creative, such as in art and literature, but they can also be destructive by engendering misunderstanding, contempt and conflict. The main point here is to recognize that there are cultural differences in thinking and attitudes about how water is used and valued in Australia and these can lead to social disenfranchisement and social disruption.

4.1.2   Water: the biophysical context

Rainfall and water availability in Australia are highly variable across the continent. This variability includes seasonal differences as well as geographical: northern tropical areas typically receive the bulk of their rainfall in the summer whereas in the southern areas rainfall can be spread more uniformly across the seasons or it can fall predominantly in the winter months (Letcher and Powell, 2008). Rainfall is also subject to global climatic influences, such as the El Niño and Southern Oscillation phenomena which give rise to patterns of extended dry periods, or droughts, that can span several years (Smith, 1998). This rainfall variability is a major characteristic of the Murray–Darling Basin (Figure 4.1) in which the case studies in this research are located. The Murray–Darling Basin is a large catchment area, or river basin, that encompasses 14% of the total area of Australia and is just over a million square kilometres in size (MDBA, 2009). It extends from the southern part of Queensland and encompasses 75% of NSW, 56% of Victoria, 100% of the ACT and 8% of South Australia (Hatton MacDonald and Young, 2001).

The Murray–Darling Basin is named after two rivers, the Darling and the Murray. The River Darling drains the northern more arid area of the basin, flowing south-west from southern Queensland across the dry north-west of NSW. Its flow pattern matches the rainfall: it is highly variable and ranges from slow-moving floods spreading wide over the flood plain to a mere trickle linking waterholes in the bottom of the river channel. The River Darling joins the River Murray in south-western NSW. By contrast, the River Murray has a more reliable natural flow originating in the higher rainfall area of the Snowy Mountains in the southeast of the Murray–Darling Basin (Hatton MacDonald and Young, 2001). The 2500 kilometre River Murray marks the border between NSW and Victoria and flows north-westwards into South Australia before turning south to reach the Southern Ocean.
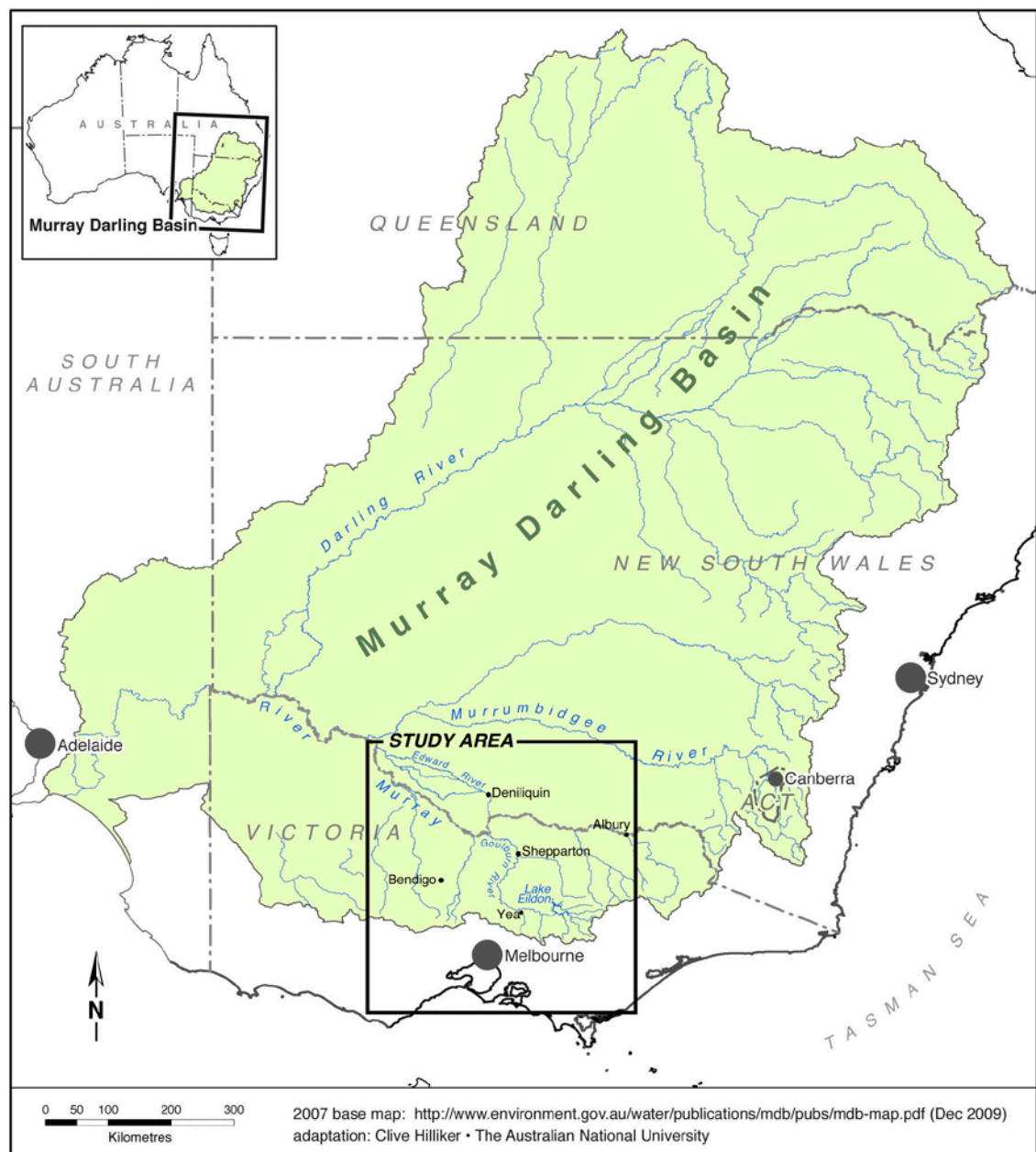
Figure 4.1 The Murray–Darling Basin showing study area

The Great Dividing Range of Australia forms the eastern boundary of the Murray–Darling Basin. It consists of a connected series of mountain ranges and high areas starting in the far north of Queensland and then extending 3500 kilometres along the coastlines of NSW and Victoria until it meets the western Victorian plains. It is the south-eastern area of the Great Dividing Range that provides the most rainfall in the Murray–Darling Basin. This area, which includes the Australian Alps, is drained by the River Murray and its tributaries, such as the Murrumbidgee River in NSW and the Goulburn River in Victoria. This south eastern area, which is known as the Upper Murray catchment, accounts for 17.3% of water runoff despite being only 1.4% of the Murray–Darling Basin (MDBA, 2009). The two case studies are located in this south-eastern area of the Murray–Darling Basin (Figure 4.1), the first taking place in

NSW to the north of the River Murray and the second taking place in the north-eastern area of Victoria south of the River Murray.

The Murray–Darling Basin is also well-known for its biodiversity and ecologically significant "icon sites", such as the Barmah-Millewa Forest, a large 66,000 hectare river red gum forest located in the Murray River floodplain between Deniliquin, Tocumwal and Echuca. The Murray–Darling Basin includes some 30,000 wetlands, of which 16 are listed under the Ramsar Convention (MDBA, 2009; DEWHA, 2009). These provide important ecological functions for the area, for example, water filtering, refuges for wildlife and migratory bird breeding grounds. However, much of this natural ecological capital has been put seriously under threat as a result of the exploitation of water resources in the last 200 years. The next section outlines the development of water management in Australia during this era.

4.2   *Water in Australia: development and myths*

> To a large extent, the history of agriculture in Australia has been characterised by our efforts to turn this dry country with its poor, ancient soils into another Europe (Botterill, 2003:199)

> The Murray-Darling river basin by its physical and geopolitical nature is difficult to manage and is likely always to be a source of conflict due to its economic significance (Hatton MacDonald and Young, 2001:262)

4.2.1   Three phases of water development

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 1890s, 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 and it became clear that a biophysically-based catchment management approach for natural resource management 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) through the initiation of significant reform. The Murray–Darling Basin Commission, established in 1987, put a limit on water diversion in 1997. This is known as the Cap (Dole, 2002). The 2004 National Water Initiative sets out a comprehensive national water reform process (Section 4.3) but also recognizes that there are significant challenges and uncertainties in implementing the initiative (Stoeckel and Abrahams, 2007).

4.2.2   The development of irrigation in NSW and Victoria

> Governments …aim was to use irrigation water to create communities of property-owning, independent, small farmers as a foundation for a democratic society. Large holdings were forbidden and water rights were tied to land titles to prevent the development of water market speculators…the formula worked fairly well for much of the following century (Connell *et al.*, 2005: 84)

The history of irrigation development in both NSW and Victoria is long and complex. Its development has taken many twists and turns in response to an interacting and constantly shifting set of attitudes, political influences and economic and environmental constraints (Lloyd, 1988; Powell, 1989). The controversy and conflict that have doggedly pursued this development continue to this day. According to Musgrave (2008:36, 40) irrigation started with an "ill-founded belief in the virtues of small-scale farming" and continued with a struggle between "forces to retard it" and "continued advocacy of irrigation… from a community which was reluctant to abandon its yearning to see the desert bloom". This history has been well recorded

by historians, industry experts and academics (for example, Lloyd, 1988; Powell, 1989; Martin, 2005; Musgrave, 2008).

The first major milestone was the passing of Victoria's *Irrigation Act* of 1886, whose architect, Alfred Deakin, was convinced of the benefits of irrigation (Musgrave, 2008). Deakin had investigated irrigation systems in the United States and he believed that irrigation could benefit Victorian agriculture, for example, with the establishment of irrigated orchards and vineyards. His vision included government support to establish the irrigation infrastructure of dams and distribution channels (Musgrave, 2008). The *Irrigation Act* of 1886 was significant because it transferred rights in natural water to the Crown, ending the so-called "tyranny" of the riparian law inherited from English law but seen to be inappropriate in the Australian context, particularly in regard to irrigation (Lloyd, 1988:115). NSW followed suit with this transfer of rights although rather later, with the *Irrigation Act* of 1912 (Lloyd, 1988).

This transfer of rights allowed irrigation systems to be developed which included major infrastructure works, such as dams for water storage and channels for water distribution. State-controlled bureaucracies to manage this water development were created: the Water Conservation and Irrigation Board in NSW in 1896 and the State Rivers and Water Supply Commission in Victoria in 1906 (Musgrave, 2008). Because this was an era of infrastructure development these organisations were heavily oriented towards engineering and construction. Major storages in NSW and Victoria were constructed: in Victoria, Goulburn Weir on the Goulburn River was completed in 1889; Burrinjuck Dam in NSW in 1912 and Lake Eildon in Victoria in 1927 (Musgrave, 2008).

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). An important principle in the establishment of irrigation districts was that the water right held by an irrigator was to be tied to the land (Martin, 2005). As the quotation at the start of this section indicates, this principle held until the water reform process initiated in the latter decades of the century specifically separated the water right from the parcel of land to enable water trading to take place.

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).

In his summary of water resources development, Musgrave (2008:36) points out that the completion of the Snowy Mountains Scheme in 1974 and the profitability and expansion of rice cultivation were the two factors that maintained the momentum of the irrigation industry even as questions about its economic viability mounted. The collection and diversion of water by the Snowy Mountains Scheme makes available an average of 1210 Gigalitres which is released into the River Murray annually (DNR, 2006:7), with a similar amount being released into the Murrumbidgee River. The additional water from the scheme enabled an expansion of the irrigation areas in NSW, which many believed amounted to a significant subsidy of the irrigation industry because capital costs were not included in charges for irrigation water (Smith, 1998).

4.3   Water reform and some consequences

> Indeed, the pace of change makes reporting on the current situation akin to hitting a fast-moving target (Smith, 1998:273)

By the 1980s environmental and economic concerns over the use of water for irrigation brought a renewed focus on water reform at a state and national level. For example, Langford *et al.,* (1999:1) summarise the problems that precipitated a period of extensive reform in Victoria between 1984 and 1994:

> Unfortunately the lack of financial discipline…left a legacy of irrigation enterprises of low profitability, small farms, financially unviable irrigation authorities, ageing irrigation infrastructure, a large public debt, and environmental degradation through salinity and water logging. Any reform of irrigation would have to overcome this inheritance.

While water development and management are primarily the domain of state governments—which is why different arrangements exist in each state—federal governments have also recognized the need for water reform at a level that can transcend political and geographical boundaries. The 2004 National Water Initiative was put forward as a national framework for water reform which builds on earlier state and federal initiatives.

The National Water Initiative is a complex and ambitious blueprint for water reform (Stoeckel and Abrahams, 2007). Key elements of the National Water Initiative 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). This latter element—that water is to be used to its highest value—is at the heart of the National Water Initiative and is why water markets in

which water entitlements can be permanently traded form the centrepiece of this national policy. While water trading had already been introduced within the states (for example, temporary trade was introduced in NSW in 1983 and in Victoria in 1987 (Langford *et al.*, 1999; Martin, 2005)) the aim of the National Water Initiative is to introduce a *nationally* compatible water market. This requires compatibility between the states on a range of measures, such as how water property and access rights are defined and how water volumes are measured and accounted for (Fisher, 2007).

Steps that individual states have taken in implementing reforms have varied according to the drivers of water reform, such as water scarcity in a particular area, and the state water management program and reform progress.   Attitudes to reforms have also varied within and between irrigation communities and government agencies, with some specific reform activities becoming significant points of concern and disagreement.   Two areas in the reform process relevant to this study have generated significant discussion and disagreement.   The first concerns the way in which "sleeper and dozer" water licences are handled during the reform process and the second concerns the problem of "stranded assets" which can occur when water is traded out of a district.

"Sleeper and dozer" water licences

The notion of sleeper and dozer water licences is concerned with the degree to which water is used under each water licence. Water users have different requirements for water extraction: some, such as irrigation farmers, use their water allocation to the full, whereas others, such as farmers with a mixed operation, use a partial allocation. In some cases no water is used at all. Sleeper licences fall into this latter category where there is no recorded water use against the licence and the licence is considered inactive. A dozer licence is one in which water is used from time to time but usually not up to the maximum (Martin, 2005; DSE, 2008). In NSW the government reforms in 1995 recognized all of these licences as being a "right" whereby a holder of a sleeper or dozer licence could sell his or her unused allocation on the market (Martin, 2005:88). Prior to this reform and the onset of trading, irrigators had generally benefited from the fact that some water licence holders did not use their water at all: there was more available in the overall allocation. However, when trading was introduced and sleeper and dozer licence holders were able to sell their water, the overall amount of water used within the system was perceived to have increased (Martin, 2005). This was contrary to the overall objective of the reforms—to address the problem of over-allocated systems (Gardner and Bowmer, 2007). Many irrigators believed that a preferable way to deal with sleeper and dozer licences is to make decisions based on a "history of use" (Martin, 2005). How such licences are managed is still an active issue, for example, in the northern region of Victoria it is recognized that increased activity in water trading increases the risk of more sleeper licences being activated (DSE, 2008:169).

"Stranded assets"

The second area of concern resulting from water reform and water trading involves the notion of stranded assets. Stranded assets are recognized as an "inevitable" consequence of structural change in an industry (Roper *et al.*, 2006:v). In an irrigation system the term "stranded assets" refers to irrigation infrastructure assets that become less utilised and therefore less financially viable as a result of water being traded out of the system (Roper *et al.*, 2006). Because irrigation systems were designed in an era when water was tied to the land, the cost of delivery of the water and maintenance of the irrigation system were shared equally amongst all water users. With the onset of water trading and the separation of water entitlements from the land, water users could sell their water out of the system, resulting in the remaining costs of delivery and maintenance being shared amongst fewer users. This is the stranded assets problem. Those remaining water users would be financially disadvantaged unless a mechanism was introduced, such as exit fees, to offset the loss of water from the system (Martin, 2005; Roper *et al.*, 2006). The stranded asset problem is also perceived to have social impacts as well as financial impacts. For example, when water is sold out of a district there are structural and social changes within communities due to the loss of secondary business and trade, such as farm and irrigation supplies.

"Managed investment schemes"

Water trading has also facilitated the establishment of agricultural enterprises known as managed investment schemes (also referred to as MISs). Managed investment schemes are organisations in which investors contribute to a common enterprise to produce financial gains. In the irrigated agricultural sector managed investment schemes have developed new irrigation enterprises in areas that were not previously irrigated, in both NSW and Victoria. Managed investment schemes have been criticised for "buying up farmers' water rights as a tax dodge" (Byrne *et al.*, 2006:1), in part because they are perceived to have received funding by investors seeking investment taxation benefits, but also because they have led to over-investment in some industries, such as viticulture, which has distorted the market and compounded the stranded asset problem (Byrne *et al.*, 2006). Criticism of managed investment schemes and the impact on agricultural areas came to a head with the financial failure of two large managed investment schemes in 2009 (ABC Rural, 2009).

In summary, the water reform program, including permanent water trading, has been met with a variety of responses, with some irrigation farmers seeing the benefit of water trading and others maintaining strong opposition. In some areas this opposition is deeply held. Byrne *et al.* (2006:5) record their perspective in a book titled *High and Dry: How free trade in water will cripple Australian agriculture.* The following extract provides an example:

> What has changed to cause governments to unbundle 80 years of successful, scientific-based agricultural rules, property and water rights, neglecting

enormous, accumulated institutional knowledge, to now allow the trade of
water from farms to cities and among irrigation regions?

The move away from long-standing irrigation scheme administrative arrangements for
water sharing to open water markets has resulted in a variety of consequences, some of which
were anticipated and many of which were not. However, it is clear that water development in
Australia is still clouded with disagreement and acrimony on many sides.

4.4 Context for the case studies

This section provides specific background to the NSW carry-over water study and the
Victoria pipeline study introduced in Chapter 1.

4.4.1 Water allocation in NSW

The NSW case study is located in the irrigation areas of the NSW Riverina, north of the
River Murray (Figure 4.2). These irrigation areas are primarily serviced by Murray Irrigation
Limited, although other smaller irrigation organisations also supply irrigation water. At the hub
of these irrigation areas is the rural town of Deniliquin, first settled in 1845, which is located on
the Edward River, an anabranch of the River Murray. From its early origins as a river crossing
point and wool growing region, Deniliquin became a prosperous rural town servicing the
Murray Irrigation District. At the time of the case study the population of the area was
approximately 8000.

Figure 4.2 NSW case study area

The NSW Office of Water is responsible for water management in NSW. There have been several episodes of restructuring of government agencies and their portfolios in NSW since 2006: at the time of the case study the responsible agency was the Department of Natural Resources (DNR). How water is managed, shared and supplied in the NSW Murray river system is described in a NSW government publication titled *Background to water management* (DNR, 2006a). This document sets out the water sharing arrangements between NSW, Victoria and South Australia and describes how water is allocated within NSW to water users that utilise water from the River Murray. The purpose of the document is to "provide an assessment of the reliability of water to supply to NSW licensed water users" (DNR, 2006a:2). It includes a description of the different water entitlements and how water is allocated.

The 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, such as horticulture and viticulture) 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. There is a precise formula which calculates what is known as the "announced allocation" and this takes into account water in the system at the time and an estimation of future inflows for the year (DNR, 2006a:22). When calculating future inflows a conservative approach is taken which calculates future inflows to be no more than the minimum inflows in the past 109 years. This method of calculation gives high reliability for high security users and an expectation for general security allocations to reach 70% of their allocation in 87% of years; in one year out of 100 general security would not rise above 10% of allocation (DNR, 2006a:26).

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:14). This is in contrast to the allocation policy in Victoria which takes a more conservative approach by reserving water for the following year. The NSW approach has been adopted in consultation with industry water user groups over many years. It is designed to put the decision-making as to how much water is used at the individual water user level. Individuals therefore have the opportunity to use the water, trade the water, or carry some of the water over to the next season (DNR, 2006a). This ability to carry the water over into the next season is a risk management tool specifically developed to enable individual irrigators to manage their own risk regarding water availability. This carry-over water risk management tool was introduced in 1998 (Martin, 2005) and enables up to 50% of water to be carried over from one year to the next.

The hierarchy reflecting the allocation priority set out by the government determines that carry-over water from the previous year is higher up the ladder 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.

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% in general security. On October 15, 2006 a government media release advised that cutbacks to the current water allocation would take place immediately (DNR, 2006b). This was announced without prior warning to the irrigation community. A second cutback was announced on November 10, 2006, but this was preceded by discussions with irrigation industry groups. The first cutback reduced the allocation by 20% and the second by a further 32%. The cutbacks applied to any water held on water users' water accounts and included carry-over water and water that had been purchased through the water trading scheme. The irrigation community protested on December 15, 2006. The government refused irrigation calls for targeted compensation regarding the water cutbacks, but did respond to irrigators' financial hardship. A $20 million Extraordinary Assistance Package was announced by the NSW government in January 2007 for "struggling southern irrigators" in which irrigators had to demonstrate "severe financial distress" to access up to $50,000 (NSW Government, 2007a:1/2). This assistance package was subsequently amended in March 2007 to make the application process simpler for irrigators (NSW Government, 2007b).

4.4.2   Water planning in Victoria

The Victoria pipeline case study centres around two locations: Shepparton and irrigation areas in the northern area of the state and Yea in the central area (Figure 4.3). Shepparton is the regional hub for irrigation areas in the Goulburn-Murray Water Region of northern Victoria. It was established as a crossing point of the Goulburn River in the 1850s and has grown to a population of approximately 38,000. The township of Yea was settled close to the Goulburn River in the late 1850s as a farming and timber community. At the time of the case study the population was approximately 1000 and the Yea area was primarily a farming locality with some additional local tourism enterprises.

The Victoria pipeline study is concerned with two water infrastructure projects initiated by the Victorian government. These are the Food Bowl Modernisation Project and the North South Pipeline. The Food Bowl Modernisation Project is a broad-based irrigation initiative to upgrade irrigation infrastructure across the Goulburn-Murray Water Region (Figure 4.3) in order to save water lost in transmission. The North South Pipeline is a new 75 km pipeline designed to take a share of the water saved in the irrigation upgrade from the Goulburn River near Yea to the Sugarloaf Reservoir just north of Melbourne (Figure 4.3).
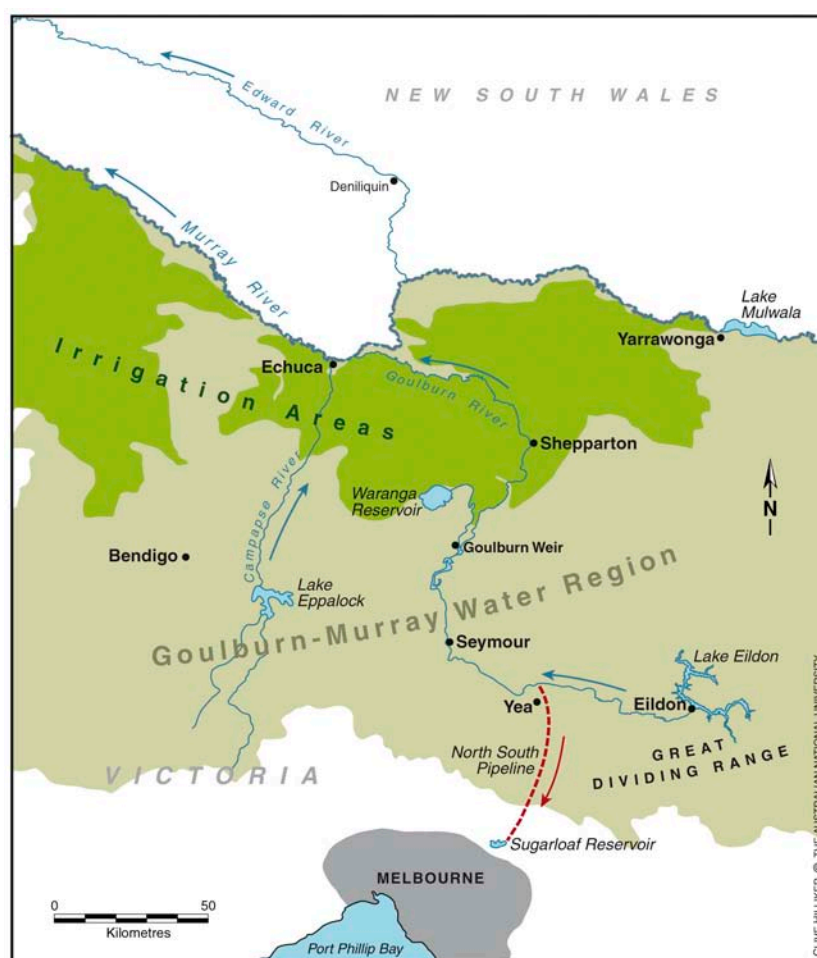
Figure 4.3 Victoria case study area

These two projects were developed by The Department of Sustainability and Environment (DSE), a Victorian government agency which carries out water planning for the state and provides advice to the Victorian government. In 2004 the Victorian government published its plan for water security in the state (DSE, 2004), and in June 2007 published the next phase: Our Water Our Future: The Next Stage of the Government's Water Plan (DSE, 2007). This plan outlined an investment of $4.9 billion in water infrastructure projects and described the Food Bowl Modernisation Project and North South Pipeline. The context for this plan was the long-standing drought of over 10 years and the low levels of Victoria's water storages which had resulted in widespread water restrictions In addition the plan outlined the impact of climate change and the recent record low inflows to Melbourne's storages which indicated that a "step-change" in the region's climate may have already taken place (DSE, 2007:21). Thus this latest plan published in June 2007 was seen as an emergency response to the record low inflows (DSE, 2007; Auditor-General, 2008).

The Food Bowl Modernisation Project was planned in two phases: a first stage investment of $1 billion would build on current upgrades already taking place and enable water savings up

to 225 Gigalitres to take place. These initial savings of 225 Gigalitres would be split three ways: a third for the environment, a third for irrigators and a third for Melbourne. The water for Melbourne, 75 Gigalitres, would be diverted from the Goulburn River through the North South Pipeline. This amount of 75 Gigalitres represented "less than 5% of the total volume of water available in the Goulburn system" (DSE, 2007:9). The pipeline would be ready for use in 2010 (DSE, 2007). These projects were part of an expansion of the Victorian Water Grid which would enable water to be transferred between water systems (regional river valleys), thereby increasing water security and facilitating water trade (DSE, 2007). The Victorian water plan stated that up to 900 GL of water were lost annually from a total amount of 3500 GL in the Goulburn Murray irrigation area. This was due to "poor measurement, leakage, seepage, evaporation and an outdated irrigation delivery system" (DSE, 2007:8).

To achieve the water savings in the Goulburn Murray Irrigation District a Steering Committee would be set up "to guide the further development of the project" and include "local councils, interested groups, the Food Bowl Alliance and the broader community" (DSE, 2007:4). The plan also announced that "work will begin immediately to develop" the pipeline from the Goulburn River to the Sugarloaf Reservoir (DSE, 2007:28). Of the two routes considered, the Melba highway route from Yea to the Sugarloaf Reservoir had been chosen "as it is shorter and will be quicker and less expensive to build" than the alternative route along the Hume Highway (DSE, 2007:9).

In April 2008 the Victorian Auditor-General published a report which was critical of aspects of the Victorian government's water plan described above (Auditor-General, 2008). The criticism centred on two areas: "minimal stakeholder consultation" and "inadequate levels of rigour applied to estimate the costs, benefits and risks of some of the key component projects" (Auditor-General, 2008:2). While the report acknowledged that the recent water plan was an emergency response to the lowest recorded inflows to water storages in 2006, it also concluded:

> It is incumbent on the government to provide full, accurate and timely information on its financial commitments and projects put before the community. The Victorian water plan did not provide this information. There were widely varying levels of rigour around the plan's costs and expected water savings benefits. The documentation did not explain this. This is essential information, especially when an emergency situation requires streamlined processes. (Auditor-General, 2008:2)

The report outlined 10 recommendations which included that a detailed analysis of the water savings estimates and costs of the Food Bowl Modernisation Project should be published.

4.5   Summary

In presenting the broad context for the case studies this chapter has provided a brief overview of some biophysical aspects of water in Australia and associated cultural and

institutional arrangements that have developed around the use of water. Thus, the chapter has shown that there are complex sets of linkages between social and ecological systems (Chapter 3) that need to be broadly understood in current-day water management arrangements and decision-making processes.

Further contextual information derived from the interviews is provided in the next two chapters which form the first level of analysis of the case study data.

Chapter 5: The NSW carry-over water study

Deniliquin, NSW, February 2007

Flood irrigation, Murray Irrigation Area, Deniliquin, NSW, February 2007

(Photos: Catherine Gross)

Key findings from the NSW carry-over water study are presented in this chapter. The purpose of this chapter is to provide an overview of the range of different perspectives held by interviewees resulting from their experience of the carry-over water cutbacks. These findings are a first level analysis of the data and are presented in three areas: first, interviewee perceptions as to what was at the heart of the protest; second, how the carry-over water cutbacks affected people in the area, and finally, interviewee perspectives of fairness and justice about different aspects of the water cutbacks. All findings in this chapter are derived from the empirical data collected through semi-structured interviews.

5.1   The heart of the protest

This section describes interviewee perspectives about what they thought was at the heart of the protest that took place in Deniliquin on December 15, 2006. With over 2000 people in attendance (from a region of approximately 8000 people), it was clearly a significant event for the community, attracting state-wide media attention. So the first question in the interview about the water cutbacks went straight to the central issue of the protest by asking what was at the heart of it. Interviewees identified a wide range of issues that were either what they believed was at the heart of the protest from their own perspective, or what they perceived others felt about the issue. Some people cited only one reason for the protest whereas others offered several.

Taking away an "asset" with no compensation

For most people the fundamental issue was that the water held in people's water accounts (which included carry-over water and purchased water) had been taken away by the government with no prior warning and no compensation. This water had been considered to be the equivalent to a property right or asset, but, by its action, the government had shown no recognition of irrigator rights or ownership of this perceived asset. One irrigation company employee described it as "the heart of it is that the government took this action, weeks went by and they did not do anything regarding compensation". For many irrigators the loss of this water became a financial problem because they either had to buy more water or find alternative sources of feed for stock. This financial impact was therefore a primary reason for the protest because the impacts of the cutbacks were apparently not recognized by the government. The protest gave people the opportunity to express their frustration in public at this lack of recognition of either the property right or the negative impact on farming businesses. As one Deniliquin business professional described it "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". Several interviewees gave comparisons about what this meant to them, such as somebody taking groceries that had just been purchased out of somebody's supermarket trolley, or somebody coming to a farm and taking part of a farmers'

feed store, such as hay. As one irrigator described it "the heart of the protest is that the water was ours. It was our money in the bank. You do not come and take money out of our bank accounts". There was a good deal of support for this position amongst interviewees: even those who were not irrigators and who were not in favour of irrigation in general considered this to be an unfair action which "could have been handled better".

Impact of the loss of financial resources on irrigators

While the action of the government to take away a perceived property right without compensation was the most frequently cited issue at the heart of the protest, many also thought the impact of the loss of financial resources on irrigators was a major reason for the protest. As one irrigator put it "there was frustration and a lot of it would have been desperation because people had put drought plans in place and these programmes were shattered on that day with little warning or no warning and no recompense". Another community leader irrigator explained "there is a huge impost on people that are trying to manage at a difficult time and have taken decisions about how to survive". Others saw the protest as being an opportunity for people to express their dissatisfaction. As one irrigation community leader put it "people did need to vent some anger at the way they had been treated. In many respects people had made good decisions at the time and then those decisions had been ripped out from under their feet". Another reason for the protest was the perceived irony that the government action hit at the heart of what the carry-over water management tool was designed to do. The fact that the carry-over water was a risk management tool to use precisely in times of drought, which some irrigators had come to rely on, was an additional frustration. As one irrigator commented, "they have just basically hit at the whole reason that carry-over is there for". Another Deniliquin business owner said that she disagreed with the government 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 way people were treated

For many people the issue at the heart of the protest was the way the irrigators had been treated and the way the government had made the cuts without prior consultation or notification. One irrigation farmer was particularly concerned with the process of how the decision had been made: "I wanted the focus to be on the unfairness of how it happened, not on the fact that the department appears to have made a mistake". He thought that irrigators should have been included as part of the decision-making process to know the basis of the allocation decision. Another irrigator described it as "ruthlessness… these people are just cut off at the knees" and another thought that irrigators and the community "were effectively treated with contempt". Many members of the community who were not directly affected by the action were supportive of the protest because they disagreed with the way the action had been done, not why it was

done. As one town business owner commented "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".

Some irrigators thought that the issue at the heart of the protest was not only about the lack of consultation with irrigators about the actual decision, but that the government had "mismanaged" the water resource. There were suggestions that the government "did their sums wrong" in calculating how much water was available and had incorrectly allocated the carry-over water to the high security water users. For one community leader the "lack of accountability" was the main issue at the heart of the protest because the government did not acknowledge either the problem or why the problem had taken place and "did not want to take fiscal responsibility for their actions". Therefore in his opinion the government was trying to push the burden onto the irrigation community, rather than accepting some degree of responsibility for the carry-over dilemma: "we believed they were breaching many tenets of their water regime… they were expecting the irrigators to bear the full cost of their departments' incompetence". Other reasons given for the heart of the protest centred on the protest itself as being "to try and show the government that there was some sort of unity and to show them we were not going to take this lying down". One dairy farmer described it as wanting to explain to people outside the area what had happened: "it is very unjust because it is no different to going to a shop in Sydney and taking 20% of the stock off the shelf and saying you might get it back next year and then coming and taking another 32%".

Blame, lashing out or an ill-advised protest

There were however some other perspectives about the heart of the protest. One person thought that the protest was "ill-advised" because it seemed to be blaming the government for the lack of water, whereas the reality was that it had not rained enough and this was a time of severe drought. Other reasons for the protest were to "make a big song and dance about it and give people a reason to kick the government". This interviewee thought that the irrigators were taking the opportunity to "put the boot in" to the NSW Labor government which he thought was a political stance and "water just gave them the avenue to stir people up". Another perspective in a similar vein came from an irrigation company employee who suggested "in the context of drought it was understandable that people were going to lash out". He put the protest down to "the people are really hurting and they just saw this as an opportunity to kick back and they did". He thought that the irrigators needed to blame somebody and "that is generally the people who control the water". While he understood the reason for the protest he also thought the irrigation leaders had been "a bit unfair" in their reaction to organise the protest. However, he put this down to pressure from the members of the irrigation associations "to do something".

In summary, interviewees expressed several reasons for what they thought was at the heart of the protest. These reasons, however, were closely related to each other and centred on the government action being perceived as taking away a property right without consultation and

without compensation. The lack of recognition of the impact on the irrigators and the way that it had been handled throughout were also important issues at the heart of the protest. Other perspectives suggested that the context of the drought and the political circumstances were also factors to be considered.

5.2   Impact of the cutbacks

This section describes how individuals and groups within the community were affected by the carry-overwater cutbacks. The analysis uses the three layers of identity—material, social and personal—from the investigative framework (Chapter 3) to explore how people were affected by the decision. This was to determine their degree of interest in the conflict and how they had been affected. Material interest was explained as affecting a person's livelihood or financial well-being; social as affecting the social structure of the community, such as relationships, and personal as affecting a person's core beliefs or values (Chapter 3). This question was designed to understand the different ways in which the carry-over water cutbacks affected each interviewee. Interviewees responded to this question in different ways. Some talked easily about the three areas and about their own personal circumstances in each area. Many interviewees felt that these three areas were intertwined, with one flowing into each other, and some said that all were equally important. Other interviewees did not seem to be able to focus on the three areas and were distracted by the overall topic of the carry-over water cutbacks, or wanted to talk about another issue related to the government action. Some interviewees seemed to respond in terms of the overall community, rather than in terms of their own personal interest.

Material impacts on irrigation farmers

The carry-over water cutbacks did not affect all irrigation farmers uniformly. How each irrigation farmer was affected depended on how much water they had carried over from the season before, how much they had purchased or sold from last season's allocation, and how much water the farmer had used at the time the cutbacks were announced. The extent to which irrigation farmers use the carry-over water facility varies considerably, with some using it to a much greater degree than others (Chapter 4). Irrigation farmers who were interviewed ran a variety of farming operations ranging from small to large, including rice growers, dairy farmers, mixed enterprise (stock and crops) farmers, and vegetable growers. Some were part-time irrigators with a relatively small parcel of land and some did not rely solely on the farm for their income. These farmers varied in their engagement with local community, some being very active and regarded as community leaders whereas others had less involvement in the community. These latter farmers might attend irrigation industry meetings to keep themselves informed and socialise with their neighbours.

While most of the irrigation farmers interviewed had lost some water in the cutbacks, it was clear that some had lost a great deal, whereas others had lost a small amount. An irrigation

company employee suggested that "the most impact has been on the proactive irrigators… because they were geared up, they went out last season and bought water… believing it was secure". One irrigator, who was also a community leader and a representative of the irrigation industry, estimated that about 1100 of the 2500 irrigators in the area were affected by the cutbacks. In describing the impact on the irrigation industry this irrigation farmer suggested that it was not only the *amount* of water that was lost that determined how a farmer might be affected. For example, he had spoken to people who had lost as much as 900 Megalitres of water, worth an estimated $250,000, as well as to those who had lost much less, $30–$40,000 worth of water. The people who had lost a smaller amount could be more distressed than those who had lost more and some were "desperate to get some money back. They just want some money back". Of the 1100 farmers, he estimated that there would be "probably a couple of hundred that would be off the Richter scale… in how it is in affecting them". He thought there would be 400 to 500 irrigators of the 1100 where the cutbacks would be having a significant impact on their businesses. Some of these were being monitored by the rural councillors in Deniliquin and "regardless of the size of their operation… even some people who have lost only 50 Megalitres, to them it is relative, it has cost them a lot of money to get it and it has knocked them around".

In discussing the different types of impact, many irrigator interviewees talked about the impact on the whole farming community as much as the impact on their own business operation. Those who had experienced minimal impact typically expressed concerns for others who they knew were seriously affected by the cutbacks. Many talked about the combined effects of the material and social impacts, for example, by talking about a neighbour's predicament and then what they foresaw as a longer-term consequence on the community in general. Interviewees who were minimally affected by the carry-over water cutbacks had either used the water prior to the cutbacks or had sold it on the market earlier. Others relied on the carry-over water much more. For example, one dairy farmer described how he operated his business through the use of a farm plan that included a feed budget and a financial budget. As part of the plan he had bought amounts of water from May 2006 through to October 2006. After the first cut he immediately bought more water to compensate for the loss. But after the second cut he bought hay to feed his livestock. This farmer had spent $48,000 on purchasing water that was removed in the cuts: the impact was that he did not have the water to grow feed for the livestock, did not have the $48,000, yet still had to buy feed and had to borrow money from the bank to do so. However, during this time the price of feed had also risen and the quality was not as good as the grass that could have been grown with the water. This was an additional impact on milk production. As a result he had to go further into debt and also sold some cows to reduce the milking herd. Another dairy farmer, who was also a community leader, suggested that some dairy farmers would not recover from the combined impact of the

drought and carry-over water cutbacks, having used up their equity and being unable to borrow more money from the bank.

A mixed enterprise farmer who had suffered a large financial impact had bought water in August to irrigate his lucerne crop, which formed the core of his irrigation business. This farmer had bought 1000 Megalitres of water, of which approximately 250 Megalitres was lost in the cutbacks, which he estimated as $300,000 of lost production. This directly affected his lucerne business which employed one full-time employee to operate the hay trucking and delivery operation. Another mixed enterprise farmer who described himself as "a bit more of an aggressive irrigator than the average" had bought 1200 Megalitres, initially to grow rice. He then described how his decision-making regarding the use of this water changed as the dry conditions persisted and then as the two cutbacks came into effect. After eliminating the option of growing rice, he decided to irrigate wheat and lucerne crops and use the lucerne to feed his lambs and fatten them instead of selling them as store lambs. But after the first cut back he decided to change tack and buy feed for the lambs instead of watering the lucerne. After both cutbacks the value of store lambs had dropped "because the market had been swamped" so he had to "stick with the decision" to fatten the lambs. As a result he was planning at the time of the interview to sell some ewes. In addition to the financial impact, this interviewee described the "mental pressure" of continually having to revise his decisions and "it knocks you around with your thinking… and what you notice is you are just not doing anything and you're not being productive".

Many rice farmers also suffered from significant losses as a result of the carry-over cutbacks. Rice farmers describe their decision-making window for planting their rice crop as being between the 2nd and 10th of October, with many making a decision about how much to plant in the last week of September. Preparation includes cultivating the land and adding fertiliser, seed and water. One rice grower described how he had 400 acres of rice "watered up" at the time of the first cut back on the 15th of October. The impact of the cutback was that he stopped watering 150 acres of rice, which in effect let the crop and preparation go to waste. He estimated the losses to his farming operation to have been about $200,000.

Material impacts on other stakeholders in the community

In the words of one community leader "there is nobody in Deniliquin that is not going to be impacted… because we are all totally dependent on water". All of the town business community leaders interviewed emphasised the dependence of the local business community on the well-being of the irrigation farmers, who, as primary producers, were the primary income generators for the area. For the most part it was their expenditure on farm and domestic supplies and support services that supported the local economy. While most interviewees acknowledged that the continuing drought was the primary factor in the current downturn in the prosperity of the irrigation industry, many thought that the cutbacks to the carry-over water

were also significant as an indirect material impact and the proverbial "extra straw that broke the camel's back". A teacher described the indirect impact:

> Every community member will be affected in a material way. Water in our area is the absolute lifeblood to continued prosperity. It does not matter what occupation you follow, whether it is on the land or in business or as a public servant.

The indirect impact was also significant for the smaller towns in the district. For example, one irrigation farmer described the predicament of a local tyre supplier: he had temporarily taken on a second job of sheep-shearing as an alternative to laying-off his two staff. He added "we are not spending in the town now, we are not going to functions", but was concerned with the ongoing impact of this reduced expenditure: "if you lose shops no-one will ever come in and start up a shop again". Another irrigator in a small town also described how his town was "slowly dying" as shops closed due to lack of business. Irrigation companies had also taken measures to reduce expenditure as a result of the shortage of water in general: one company had reduced staffing and Murray Irrigation Limited had reduced their operations to a four-day working week.

Social impacts

As one community leader summed up "a community has to feel good". Many interviewees emphasised their overall concern for the well-being of the community in the face of the continuing drought and dependency of the community on the viability of the irrigation industry. The carry-over cutbacks were perceived by many interviewees to be a significant blow to the communities' overall confidence and "faith in the region", as one community leader put it. The social impacts of the carry-over water cutbacks on individuals and families had already become apparent to many interviewees. Two interviewees involved with the rural financial counselling service commented on the large numbers of irrigators seeking assistance, many for the first time. One interviewee described the difficulty that people faced when filling in the forms to access the Extraordinary Assistance Package, and the extreme distress some irrigators experienced during this process: "men will just start crying". This interviewee described the only social worker in the area as being "just absolutely flooded, inundated… cannot cope with it" and the need for more social and mental health support services in the area. An irrigation company employee described the social impacts: "you cannot go anywhere without people talking about water and what the government has done and how terrible it is… it has undermined the confidence of the community… it undermines people's confidence in the water industry". An accountant describe the extent of the impact: "it has dented a lot of people's confidence and I have seen depression, and that has rocked me a bit, because it has surprised me who has got it and who is struggling".

Many interviewees commented on the unknown extent of mental health problems and worried that many farmers were already depressed and could contemplate suicide. Some suggested that suicide was generally under-reported in rural areas and was a real threat to many farmers whose livelihood was already in jeopardy by the continuing drought. A retired irrigator commenting on the stress and pressure faced by many irrigators said that he "could see it in their eyes as they walk around town" and was keeping an eye on people that he was worried about. A dairy farmer who was also a community leader suggested that social breakdown would be inevitable, with people being unable to pay their bills and the resulting friction causing relationship breakdowns: "and that is when the family situations start to break down too, because they are under such enormous pressure… this is all an area that we do not know about yet. But it is scary stuff".

Some interviewees commented on the friction and divisions within the community that had appeared since the carry-over cutbacks. One irrigator talked about "backstabbing comments" he had received because he was able to go out and buy more water. Another interviewee in the town talked about his daughter at school being abused verbally because of her mother's occupation in a government agency and her perceived role in the implementation of the cutbacks.

Concerns about social well-being were not limited to irrigators, community leaders or prominent business people, or even to the immediate carry-over issue. One conservationist talked about the possibility of "the town dying" if large amounts of water were to be traded permanently out of the area "I don't really want to see the town die and I don't really want to see other areas get stuffed up". Another dryland farmer suggested that "a lot of people will go under" and that the social impact of the combination of drought and carry-over is going to be "long and painful". He talked about the declining infrastructure in the town and "the less resources are going to be here, the less friendly place it is for families… which has huge re-percussions for me in the future". This interviewee was concerned that the community had not faced up to the reality of reduced water allocations and drought:

> I do not think anyone has helped the community in general to face up to it.
> And when we hit the wall we have hit it a lot harder. And it is awful.

Personal impacts

Many interviewees talked about the social and personal impacts as being combined or intertwined and some did not separate social aspects from personal aspects. Some interviewees became quite emotional, with some close to tears, in this part of the interview as they discussed the personal impact on themselves or on friends and neighbours. Some were able to talk about these very sensitive issues whereas others touched briefly on the topic and then moved on quickly. Several avoided talking about their own personal experience preferring to talk in more

general terms about the community. Some were philosophical about the issue, for example, one irrigation farmer described it as "just another hurdle… it's all part of farming really… so you battle on". Others were angry, for example an irrigator who was involved in discussions with the government said that "personally, it did start to get to me… the huge amount of uncertainty. Because of their incompetence I was indignant and I was outraged".

A widespread personal impact described by many people was the disappointment with the way they had been treated. Some described this as a severe disillusionment and loss of confidence in the government and its ability to work with the community. Many interviewees felt that they had not been treated with respect and were not valued, either as irrigators or as producers of food and this went to the heart of their loss of belief in the overall system. At the core of this loss of confidence was the fundamental issue that a perceived property right had been violated. One community leader suggested that this was a "terrible precedent for the future". A retail business operator said "it comes down to values and what you think is right. They need to pay for the water basically". One irrigator said that the episode had "reduced my belief to some extent in the processes of good government". Another business community leader who had worked with government agencies for many years described the personal impact:

> Personally, I have come to the conclusion that it does not matter how community minded you are or how much you are prepared to put in, there are people that are up above, that can make a radical decision, that can impact on you and you can do nothing about it.

This interviewee talked at some length about her experience dealing with government agencies. She said that typically there would be a core of five or six people in the community who were prepared to take leading positions but she said "it is an awfully long haul to try and get governments to listen to what the real issues are for communities". Another irrigator community leader echoed this point "every time something happens here we are not consulted… to see some of the things that they have done to us, when they have got no idea of what it is like in this area… it really irritates me".

A common theme from irrigators was that this was yet another personal blow to them in the way that they are viewed by society. One vegetable grower suggested that "we are held at the lowest level… when it comes to water use". He recounted how he found it ironic that it was reported in the news that "Mr Howard is giving money to farmers to stop them wasting water" referring to the $10 billion plan put forward at that time by the then Prime Minister, Mr Howard.

Another recurring theme from irrigators and business people was the erosion of community confidence as a result of this action. One business owner commented "I put

confidence under a personal banner. We are struggling to keep the confidence level up with all these changes… we need some sort of belief in the future". This interviewee described his own personal endeavours to maintain community cohesion and help those in need, for example, in organising social events with free food to bring farmers and their families into town to maintain contact with them. This interviewee described how committed he was to serving the community and that a belief in a viable community was part of his value system. He talked about the impact of the "intellect drain" as government and research organisations and staff had relocated from country areas to cities. He felt that there was less "debate at our local level" which affected decision-making by government agencies who were less connected to the area and consequently had less understanding of local concerns. Actions such as the carry-over cutback only served to exacerbate this perceived gap and "devalue our confidence in the bureaucracy".

While most interviewees expressed their own personal concerns with the government action regarding carry-over water there were also a number of different perspectives. A dryland farmer said that he thought "it may not be as big a problem as people make out" and that "as a community issue it might be very big for a small number of people". Another dryland farmer said that the personal impact for him was the disappointment that "we could see this coming, why was it not ever dealt with?" referring to the fact that over-allocation of water in the Murray–Darling Basin has been known for decades, but still a situation like this could occur to the detriment of the community. He commented on "the lack of political will to make good policy" and the complexity of competing interests in the water industry. Along similar lines another interviewee commented on the local Deniliquin community "having its head in the sand" with respect to the lack of water restrictions in Deniliquin itself, and continued watering of public areas within the town. He suggested that the Deniliquin community had an attitude that it should be able to use water from the river without restrictions in contrast to the predicament of the irrigators and other towns which had imposed strict curbs on water use.

In summary, the carry-over water cutbacks had a wide range of impacts across the community ranging from severe impact on livelihood to concern about the viability of the community itself. Many interviewees felt that the material, social and personal impacts were of equal importance to the community as a whole. From these findings it is clear that the impact of one incident, such as the carry-over water cutbacks, has many further ramifications and indirect impacts across peoples livelihoods, social networks and personal belief systems.

5.3   *Support for irrigators but an underlying complex web of perspectives*

While in general the community as a whole expressed support for the irrigators affected by the carry-over water cutbacks, the interviews also revealed a kaleidoscope of underlying societal themes, perspectives and tensions. Some of these have been touched on in the preceding two

sections, but four further areas stand out: irrigator's understanding of water allocation; the bigger picture of water allocation; relations within the community; and relations between the community and government agencies.

Lack of understanding about water allocation

A theme which emerged from the interviews concerned how well people understood water allocation in general and more specifically to what degree they understood why the carry-over water cutbacks had taken place. Several interviewees suggested that irrigators did not have a good knowledge of how the water allocation system worked in general. For example, some thought that irrigators lacked knowledge about water allocation and that this adversely affected relationships between irrigators, irrigation companies and the government agencies responsible for water allocation. An accountant based in Deniliquin suggested that there was a "very antagonistic situation" between the NSW Department of Natural Resources and rice growers whereby the former was perceived as "the devil incarnate" and the latter were perceived as "being anathema to good management". His view was that the government had not taken away the water, that the protest was "ill-advised" and that the protest "illustrates that a lot of the people involved in the irrigation industry don't have a great grasp of the mechanics of water distribution policy". His explanation for this was that the irrigation industry had undergone a lot of change and many "older people struggle with picking up the change". Also, water had been "cheap and plentiful" until the recent drought and water reform within the last 10 years, thus people had not felt the need to develop a detailed understanding of water allocation policy. However, he suggested that there were so many state and federal organisations involved with water allocation that it was difficult for irrigators to get a good understanding because they would have to go to multiple sources. They had therefore become reliant on Murray Irrigation Limited as their first port of call for information and the NSW Department of Natural Resources as the second.

Also of the opinion that many irrigators lacked knowledge was an employee of Murray Irrigation Limited who described that company's significant and continuing efforts to keep the irrigation community informed of ongoing changes to water allocation. Information was distributed weekly and regular information sessions were held across the irrigation area to explain in detail water allocation implications for that season. However, this interviewee described how Murray Irrigation Limited itself had to "chase" information that the interviewee thought should be better distributed by government agencies responsible for that information. For example Murray Irrigation Limited had to go to several government agencies to obtain that information, making the process more complicated and the information less timely. The interviewee felt that these other agencies did not understand "the imperative" of receiving timely information about seasonal water allocation. This made the situation difficult for irrigators and irrigation companies and was one reason why there was "misinterpretation and misunderstanding" around water allocation information and decisions. This interviewee

believed that the concepts of water allocation were not generally well understood by irrigators because of the recent changes and consequently "old rules of thumb don't work". Thus it was difficult to work out whether people were unhappy with the information they got because they didn't *like* the information or because they didn't *understand* the information. A general lack of understanding was confirmed by an irrigation community leader: "a lot of folks just don't get it". He described industry efforts to broadly explain to irrigators how the allocation system worked through social functions and how Southern Riverina Irrigators had commissioned a book to describe the background of water policy on the Murray River. The book, *Water Policy History on the Murray River*, was published in 2005 (Martin, 2005).

A government agency employee involved with water delivery also believed that many people did not understand the specific details of the carry-over water cutbacks. In his opinion there was "a lot of misinformation and a lot of misconceptions out there" relating to the two cutbacks, particularly relating to exactly how much water was taken away from irrigators accounts. While state government agencies had endeavoured to simplify the information, this interviewee believed that "the vast majority of our customers just don't understand anything to do with the new act" referring to the NSW Water Management Act 2000. He went on "it dumbfounds me over how many people don't understand their core business which is water", putting this down to a combination of becoming reliant on "spoon-feeding" by government organisations and "laziness" by people unwilling to make the effort to do the research. However, he also thought that the irrigation protest was justified to a certain extent if the rules in the published water sharing plan were strictly followed, but he believed that the water sharing plan had been suspended by the Minister during the carry-over water issue, in which case the rules did not hold at that time. He was not sure if this suspension had been publicly announced. He also added that he did not believe the various government agencies communicated well enough between themselves (even during the carry-over water process) and that he could understand why irrigators were confused. In his opinion the carry-over water cutback process had been "handled appallingly badly". He attributed this in part to lack of communication between internal government departments and in part to "politics".

The bigger picture of water allocation

One interviewee, a dryland farmer and conservationist, who was not materially directly affected by the carry-over water issue, took a broader perspective of the problems facing the irrigation industry and environment. He recounted his personal sadness at the impact of the carry-over water problem on the one hand and his frustration on the other hand that water licences were still being sold, even up until two to three years ago, despite the problem of over allocation being well known. He attributed this to politics: "the trouble is it is not necessarily the water bureaucrats--it is political interference… the lack of political will to make good policy". He also described the competing interests in the area and the complexity of these, even within an organisation such as Murray Irrigation Limited. In his opinion the privatisation of

water infrastructure, ostensibly in part to "be free of inefficient government" had actually brought many problems to light and now it was the landholders who were responsible and not the government. He thought that they had been "sold a pup" because the system had been more secure under government control while it was a "socialised" system and the government had kept "the whole thing propped up" but now the inefficiencies in the irrigation delivery system were evident. He thought that an opportunity had been missed 15 or 20 years ago when over-allocation was recognized and that stronger decisions should have been made about water allocation reductions. He also believed that there was "misinformation mischief" being spread about environmental flows within the region and that it was easy to "manipulate" irrigators because "people have already got their preconceived ideas that there is somebody out there trying to break them". In this he was referring to the view commonly held by irrigators that the irrigation industry was not valued because of its impact on the environment. However, in his view the irrigation industry had not faced up to the fact that it was "living a lie" due to over-allocation and not putting away for "the bad times". These concerns were echoed by an irrigation company employee who thought that the irrigation industry was "fighting a battle of reducing resource". In his view, irrigators needed to understand water availability and risks and the future challenge would be for irrigators to take on their own risk with respect to water allocation. He thought this would be a difficult challenge for the industry: "farmers want somebody else to take the risk because there are enough risks in their own business without adding the risk of that one [water allocation]".

Relations between rural communities and government agencies

Many interviewees from a range of backgrounds commented on their experiences with different government agencies throughout their working careers. These were not only water related experiences but included other aspects of natural resource management such as the clearing of native vegetation and protection of threatened species. The carry-over water issue was seen as yet one more incident in a continuing relationship between rural communities and government institutions. One interviewee, a community leader and frequent spokesperson on rural issues, described how government planning often seemed to be oriented around a desired outcome. Her experience of working with a government agency on floodplain management led her to believe that processes would be "manipulated" to achieve a preordained outcome: "we as community just feel that we are part of the process so they can tick off the box". In her long experience of community consultation within natural resource management, she felt that there is little "genuine" consultation and that governments repeatedly fail to engage people in communities and take "the people with them". In her opinion a key ingredient is to have "community willingness" in a consultation rather than "an imposed process". For example, she described how consultation over native vegetation frequently involved the formation of committees that were "stacked" with agency people or "people whose livelihoods were not being discussed" resulting in the "alienation of communities". As a result many people had lost

trust and developed a "locked gate syndrome… they won't let people come on their land". She described how in the Deniliquin area many farmers had adopted this approach because of the restrictions placed by the government on landowners if, for example, rare or endangered species of birds were found in the area.

Embodying this perspective, a dryland farmer who was also a retired scientist and had been in the area a long time, said that if he saw a rare bird on his land he would not report it because this meant that "I won't be able to do anything on it… I will have my management prescribed… I will have to ask somebody before I can carry out an agricultural practice". In his opinion he believed that this type of rule-based regulatory approach to the management of natural resources was inferior to an approach based on education. He had become disillusioned through his experience of working on committees which operated on the "what you can't do" approach and he now believed that encouraging people in a positive way was the best approach.

Several interviewees commented on problems that they had experienced working on natural resource management committees. A conservationist who had been involved in natural resource management for many years described a five-year planning exercise in which he had taken part. He described the frustration that he felt when the same people would raise the same issues time and time again: "I got sick of going to these meetings. I got sick of arguing about the same issues meeting after meeting and getting nowhere". As a result he became "burnt out" and would not get involved in committees or community groups. In his opinion the biggest issue in natural resource management was the "lack of ecological knowledge in the broader community on how systems work, whether they be rivers, native vegetation or wetlands".

Relations within the community and community voice

While most of the criticism regarding the carry-over water issue was directed at government agencies, many interviewees commented on other aspects of how the community worked and problems with representing different aspects of the community to the outside world. That there were several different groups, such as the Southern Riverina Irrigators, the Drought Leaders Forum and the Murray Valley Community Action Group, was an indication that different groups felt the need to express their concerns in different ways. As one business operator commented: "farmers are… the worst people to get together and agree on something… they are just a lot of individuals that can't get their act together". In his opinion farmers had not been successful at being a lobby group, being "non-violent and very passive". Farmers were also "price-takers" and, with the exception of the rice growers, were at "the bottom of the line" in terms of marketing their produce. However, he also thought that the rice growers had done a poor job of public relations in Australia. Another interviewee described how the broader community had recognized the need to improve public relations and the image of the broader irrigation community by setting up the Murray Valley Community Action Group. This was at the time when the Murray–Darling Basin Cap was introduced in 1997 (Chapter 4). While the

irrigators had their industry voice through the Southern Riverina Irrigators, this was an irrigation voice and not a broader community voice.

However, multiple voices also raised difficulties. A Deniliquin business leader pointed out the difficulties with "getting the message across" and the need for "one voice on water to government" was compounded with the privatisation of the irrigation infrastructure and the formation of Murray Irrigation Limited. She felt that with the privatisation the government response to community representation through Murray Irrigation Limited was "you are just looking after your own backyard". For this reason the Murray Valley Community Action Group became a voice in an effort to explain how government policies impacted the broader community and that there were other interests, besides self-interest. But one of the problems of multiple organisations was the danger of "mixed messages" and confusion for the government because "there are so many varying opinions as to what is the real issue". In this interviewee's opinion, despite these initiatives, the community voice had *not* been heard and it seemed to her that there was a "lack of interaction between the decision-makers and even local government or business representative bodies". In her view the town of Deniliquin had been in a "downward spiral", in part because of the withdrawal of government departments and in part because of a decline in farm incomes.

5.4 Summary: impact on the whole community

While the primary issue which sparked the protest was a government action that was widely perceived to be unjust, these findings show that there were also indirect social and personal consequences. The broader community showed its support for those irrigators affected by the cutbacks, and there was widespread recognition that the indirect effects of the cutbacks were important to the community as a whole. Although the cutbacks must be seen in the context of the drought, which was the main cause of the hardship facing many irrigators, the cutbacks were also important in the context of the relationship between the government and the irrigation community. The erosion of confidence in government rules as a result of the decision being taken with no prior warning or consultation had a serious impact on the community's perception of its own viability for the future. These findings reveal several areas of societal tensions, including the over-allocation of water in the broader context and perceptions within the irrigation community that they were not listened to by governments or valued as food producers.

Chapter 6: The Victoria pipeline study
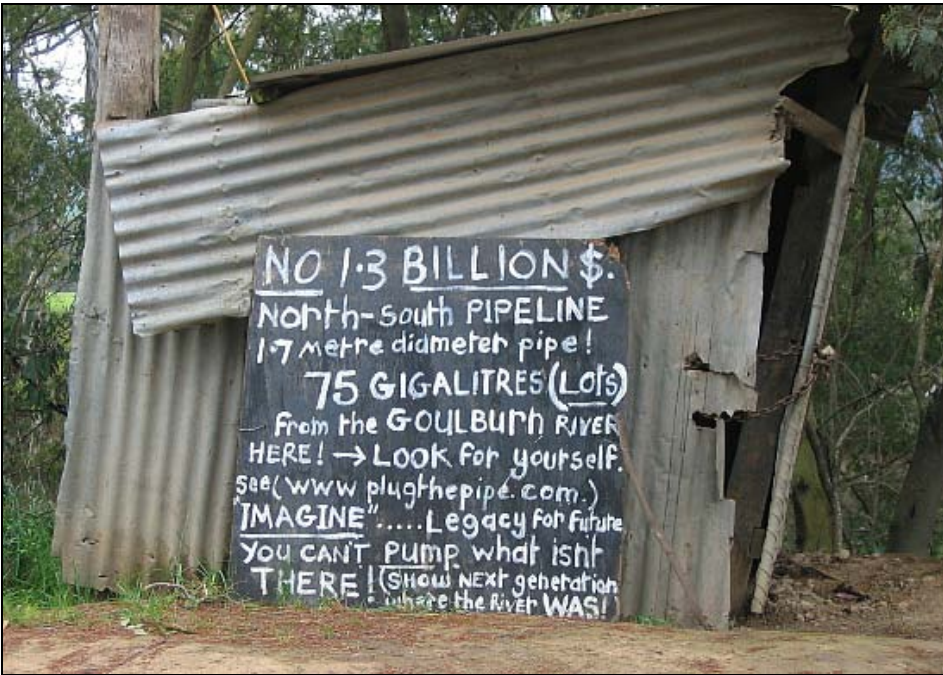
Protest signs, Victoria, October 2008

(Photos: Catherine Gross)

In this chapter key findings from the Victoria pipeline study are presented. The main purpose is to provide an overview of the range of different perspectives held by interviewees resulting from their experience of the combined Victoria North South Pipeline and Food Bowl Modernisation Project. All findings presented in this chapter are derived from the empirical data collected through semi-structured interviews. These findings represent a first level analysis of the data by summarising the data in three areas: first, interviewee perceptions as to what was at the heart of the conflict; second, the origins of the combined proposal and subsequent events, reactions and perspectives relating to the proposal and associated groups; and finally perspectives of fairness and justice about aspects of the process and treatment as experienced by interviewees.

6.1 The heart of the conflict: a realistic deal or an unjustified trade-off?

This section describes interviewee perspectives and attitudes to the North South Pipeline and Food Bowl Modernisation Project. A key objective here is to explore the core reasons for the opposition to the project and what other people thought about these objections. The purpose of this section is to gain an understanding of people's attitudes and why they held those attitudes, including their opinions about other people's attitudes which were different from their own. Interviewees were asked to describe the reason for their attitude to the project and also what they thought was the heart of the issue from their perspective. People who were opposed to the project were asked to describe the main reasons for their opposition, and people who were neutral or in favour were asked to describe why they were neutral or in favour and also what they thought the opposition was all about. In this way a rich picture of perspectives about the central conflict could be gained.

Interviewees who were opposed to the combined proposal of the North South pipeline and Food Bowl Modernisation Project cited a wide variety of reasons for their opposition. Some interviewees described a single reason that was most important to them, whereas others had several reasons. Responses varied according to the degree of involvement of the interviewee, for example whether the pipeline was going through their land, whether their business would suffer or benefit from the pipeline or irrigation upgrade construction work, or whether they were a general member of the community observing the events from a distance. Some interviewees felt that they were directly impacted; others felt they were indirectly impacted and some felt they were not affected at all. Interviewees who were directly affected tended to focus in the interview on what they perceived to be the main issue for them. Other interviewees who were indirectly affected or not affected, including those who were in favour of the project or neutral about it, frequently talked about their perspective of the bigger picture: the issues for their

community; the impact on the community and the complexity of the dilemma posed by the project.

Yea district perspectives: pipeline construction and water diverted to the south

The most frequently cited reason for the opposition to the pipeline in the Yea district was that it was "wrong to take water from a dry system to a wetter system". This was because the water catchment area from which the water would be taken was perceived to be drier and generally receive less annual rainfall than the Melbourne area to which the water would be diverted. With Lake Eildon at 23% of storage capacity, many interviewees said it was a "ridiculous idea" and "there isn't any water to take!" One retired school teacher said she thought the pipeline "will be seen as a huge folly", because, while she was not opposed to it in principle, she thought that in practice "this one river is having to do an awful lot in that we are now providing water to Melbourne … and Bendigo". Many thought that the water was needed by irrigators further downstream and by the Goulburn and Murray River systems themselves. This strong moral position about diverting water away from its natural river system, itself in the grip of a long drought, was a key part of the opposition in the Yea area. The question of where and to whom the water belonged frequently came up in the interviews. The pipeline was perceived to be taking water from one group of users, who needed the water, to benefit another group of users who had other options. Many thought that other options for Melbourne had not been adequately considered, such as stormwater harvesting, rainwater tanks to provide household drinking water and additional recycling of waste water. Environmental concerns were frequently raised as reasons for opposing the water diversion. A number of interviewees referred to a recent report concerning the ecological condition of rivers in Victoria. They pointed out that the Goulburn River was listed as being in a seriously degraded condition. This was in addition to the critical state of the River Murray at the mouth of the Murray in South Australia and potential acidification of the lower lakes due to lack of water. These environmental reasons were frequently expressed as to why the water should not be diverted out of the Murray–Darling Basin.

All of the four landholder interviewees who had been advised that the pipeline would cross their land gave a variety of reasons for their opposition to the pipeline. None of them gave the construction of the pipeline on their land as the principal reason for their opposition. They were all opposed to taking water: first because there was little water to take, second because it was needed by irrigators and the river system itself, and third because Melbourne had other options for water, whereas this area did not. They were all extremely dissatisfied with the lack of consultation about the pipeline and how the authorities had dealt with them. All were concerned with the impact of the pipeline construction on their land and farming operations and felt that the pipeline had been "imposed" on them. One landholder was concerned about the way she had been treated and thought "the whole process I find mind-boggling and absolutely

ridiculous". For these landholders the lack of information and lack of response to their specific questions was a major issue.

An interviewee associated with the opposition movement, Plug the Pipe, described how people had developed increasing anger at the way the government was going about the project. This included the pipeline construction process, the environmental assessment and an overall lack of "due and proper process". For this interviewee, the heart of the issue had changed: at the outset she described it as a "flawed project" but this had grown into a complete dissatisfaction with the way project was being conducted.

In the upper catchment of the Goulburn River interviewees were concerned that sending water to Melbourne would reduce the security of water for businesses in the Goulburn Valley and Lake Eildon area. Tourism based on recreational activities such as fishing and boating on Lake Eildon was a major source of income for the area. A Lake Eildon business owner said that he thought the local community was not opposed in principle to water being sent to Melbourne, but wanted the proposed savings from the irrigation infrastructure upgrade to be validated before water was diverted to Melbourne because "business goes up and down with the lake levels". Another resident of the area was concerned that once the pipeline was built there would be little to stop large industrial organisations from the Melbourne area purchasing additional water rights which would mean more than the currently proposed amount of 75 Gigalitres per year being extracted. This presented a future, but as yet unknown, threat to water availability in the region. An interviewee with an engineering background was most concerned about the lack of discussion and planning around the construction of the pipeline. He thought it could have been designed as a two-way pipe which would have allowed water to move in both directions. He criticised the government for being in too much of a hurry: such large-scale infrastructure projects should be carefully planned and include thorough technical, environmental and social aspects. His concern was that this was a big pipeline being rushed through to meet an "artificial" timeline of 2010, which was more about politics than real needs. He compared this project with the Snowy Hydro Scheme, which had been meticulously planned and was generally perceived as extremely successful.

Two local councillor interviewees talked about the Plug the Pipe opposition movement and their reasons for protesting. One councillor suggested, rather critically, that the opposition movement had "lost sight" of the original central issue and it was now "the government they are against". The other local councillor suggested that the central issue for the opposition movement was in fact now a complex set of issues: taking the water; removing it from the catchment; taking the water before the savings have proven to be there; not knowing the precise details of Melbourne's entitlement to the water; the river health perspective; the irrigator dilemma of paying for the water but not receiving the water; issues of equity and fairness over who gets the water and for what purpose; the impact on tourism and the impact on landowners

whose land was being disturbed. For this interviewee the central issue from a personal perspective was that it was bad water policy to take water over the dividing range and a lost opportunity for Melbourne to learn how to become a sustainable city.

While the majority of interviewees in the Yea area were opposed to the Food Bowl Modernisation Project and North South Pipeline, there were others who described themselves as being "neutral" or "neutral to in favour" of the proposal. One interviewee with a background in environmental management thought that the community was "a little bit hypocritical" in its approach to water. As an example he described how farmers had rushed to put in farm dams to beat state government restrictions in the late 1990s, and "we are all guilty of not using our water resources effectively". He went on: "it is hypocritical to be blaming our government, who we elected, to be taking action to improve the security of supply, for our state's most important economic centre: Melbourne". A retired school teacher went further in his criticism of local opposition, describing the protesters as NIMBYs. He thought that the local people were unrealistic and that one of the underlying reasons for the protest was that they did not want change in the area. Claiming the water as "their water" he thought was wrong. He explained that the Eildon dam was not built for irrigation: in his view it was built for flood mitigation. The proposal to share water savings three ways seemed to this interviewee to be "fair enough, that sounds reasonable to me", but had some concerns that with climate change the rainfall may diminish substantially in the area in which case the pipeline may not prove to be useful.

Two interviewees in the town of Yea said that they had a neutral attitude to the project. A retired schoolteacher, who had previously been an irrigator in the Murray irrigation area in the north of the state, said that she was originally against the idea, but now could see both sides, and saw herself as a "fence sitter". One of the reasons for her neutral attitude was that she did not like the way that Plug the Pipe had gone about the protest, although she thought that there should be other ways of supplying water to Melbourne. A Yea community leader and businessman said that he was "probably neutral… I am ambivalent" about the proposal and "I can see merit in the idea but I don't think the idea has been fully developed and it certainly hasn't been handled well". For him, the main explanation for the opposition to the proposal was the way it had been "handled and promoted". At the outset he believed the opposition was about taking the water, but the argument had now shifted towards a community belief that the project would become a "white elephant" and "it is not going to work … because if Melbourne is in a dry period then we are going to be short of water too".

Shepparton area perspectives: irrigation upgrade and an imposed trade-off

Interviewees in the Yea and Lake Eildon area had been inclined to focus mainly on one part of the combined proposal: the North-South pipeline and diversion of water to Melbourne. The government funding of the Food Bowl Modernisation Project in the Goulburn Murray Irrigation District tended to be secondary and minor topics. This was not the case in the

Shepparton irrigation area. The Food Bowl Modernisation Project and proposed water savings were central to the overall issue. The full combined proposal of the Food Bowl Modernisation Project and the North South pipeline was frequently the main focus of the interview discussions. What was striking in the Shepparton area was the wide gap between proponents and opponents of the project. They seemed to be organised into two opposing groups at each end of a continuum. Each group gave the impression of having absolute confidence in their fact base, knowledge and rationale and that there could be no doubt that theirs was the correct perspective. Many of these interviewees in these two groupings had long experience in the area and were current or prior office bearers in agricultural industry groups or organisations.

A key concern expressed by most interviewees opposing the project was that the proposed savings had not been calculated correctly and were overstated and misleading. While there was general agreement that some savings could be achieved through the irrigation infrastructure upgrade, there was a great deal of scepticism whether the amount of savings that had been put forward was realistic and achievable. Many interviewees suggested that the way the water "losses" were counted was misleading, and were in fact not actual water losses but only "accounting" water losses. The "lost" water was actually being used by irrigators and the environment, and removing this water would "permanently deprive" the water catchment area of 75 GL of water. Since the rationale for the whole project rested on achieving savings of 210 GL per year in order to share the savings three ways and thereby provide Melbourne with 75 GL, this rendered the project "flawed" and a "concocted deal" for many interviewees. One retired agricultural scientist described it as "a con" to estimate the savings in this way because the net effect was that less water would be in the system. On the other hand, to those in favour of the proposal, the savings were entirely realistic and would be achieved by reconfiguring the "backbone" of the irrigation system and by substantially reducing the number of channels delivering water to irrigators. By making these savings, more water could be held back in Lake Eildon and up to one third of this would be available to Melbourne via the pipeline.

While there was general agreement amongst interviewees that the infrastructure upgrade would be good for the irrigation industry by increasing water security for the area, many thought that the government should already have been maintaining the infrastructure from the annual fees paid by irrigators for water delivery. A central issue for many interviewees was that the trade-off deal was wrong. In the first place the government had an obligation to maintain and upgrade the irrigation infrastructure: to base the upgrade investment on a deal to get extra water for Melbourne was seen as unfair. That the infrastructure had not been upgraded was seen as a failed obligation on the part of the government. This point frequently came up in interviews.

Security of water for the irrigation industry was in fact common ground between those in favour and those opposing the project. The latter felt that sending water to Melbourne merely

removed that amount of water from the overall system, irrespective of any savings, and this was a threat to irrigation. They also felt there was a potential future threat if the pipeline opened up the possibilities for the purchase of irrigation water by industries in the Melbourne area. Many interviewees were concerned about the transfer of water away from food production areas to urban areas, as one interviewee put it: "we need our water to grow our own food… we need it for our own viability". Concern about the pipeline opening up additional water trading was a constant recurring theme. The social impacts of water that had already been traded out of the district were seen as evidence that water trading was a threat to the stability of the irrigation community (Chapters 4 and 9). In contrast, those in favour of the combined project believed that the infrastructure upgrade would actually *secure* the future of the region, and that the trade-off to provide water for Melbourne was a small price to pay, although a regrettable one. The justification for this trade-off was based on need, as one irrigation farmer and former member of the Food Bowl Modernisation Steering Committee put it: "politically no government was ever going to fund this project or anything like this in a rural community if there wasn't something in it for the city-dwellers. That is reality". He suggested that the upgrade was needed to stop water trading out of the area: upgrading the irrigation infrastructure would make the region "attractive for people to want to invest in the region and farm here". In his opinion "if the region is to survive we need a huge revamp" to create "critical mass".

Interviewees in favour of the combined proposal offered a number of reasons for the continued opposition to a project that appeared to be in all irrigator's best interests. One irrigator thought that underlying the opposition was "the fear factor" with Melbourne taking "something that people believe belongs to them… they still believe it is our water [in Lake Eildon]". While he could sympathise with the notion that Melbourne had other options, he emphasised that Melbourne was actually paying substantially for this water through the upgrade. If Melbourne went elsewhere for additional water then "nobody has come up with an answer for what happens here… what is our future?" Other irrigators emphasised the political nature of the conflict, with the current Labor Party being prepared to invest while, as one said, "the conservative side of politics have never spent a bloody cent on the infrastructure here".

Other perspectives: a fair trade-off in a time of need

The interviewee perspectives described so far primarily cover the range of views held by interviewees in the Yea and Shepparton districts. Four other interviewee perspectives stand out. These include perspectives of two government agency employees in Melbourne, a retired academic with an interest in water, and a retired engineer who was also an irrigator and businessman. Of these interviewees, one was well informed about the project, two were more detached from it but reasonably well-informed and the fourth acknowledged that he had knew little about it but still had a viewpoint on it. All four interviewees perceived that the combined project was a reasonable solution to a difficult problem: scarcity of water in a time of need. The government agency interviewee who was well informed about the project suggested that this

was a practical solution based on real need: that it was foreseeable that Melbourne could run out of water by 2010 if dry conditions persisted. While other infrastructure solutions were available for Melbourne, each one had problems of implementation and would be likely to take longer than building a pipeline. Demand management—restricting urban water use—was seen as already pushed to the limit and that further restrictions would be "an infringement of rights", that could have a bearing on voter decisions at the election in 2010. For this interviewee, a key part of the opposition was a fundamental misunderstanding of the project and the facts behind water losses and water savings. He also thought that landholders on the pipeline route had blown the issue out of proportion, and suggested that a pipeline was not nearly as bad as a freeway. The only doubts this interviewee expressed about the project related to the calculations of the proposed savings: he thought they may be optimistic.

The second government agency employee from Melbourne, who was fairly neutral about the project, while admitting that he knew little about the opposition or the project itself, suggested that the landholder opposition was about the pipeline itself, not the redirection of water. He believed that the interests of the majority needed to take precedence and the minority should not "be allowed to drive the whole agenda". NIMBYism was the explanation used by the retired academic to explain part of the opposition. He thought that the opposition may be an attempt by the farmers to increase compensation and was also based on a misunderstanding of property rights. The retired engineer said that he "did not believe we have a right to say the water is ours" and that it would be "morally wrong and politically naive to say that governments are going to let towns run out of water". While he was not opposed to the concept of a pipeline he was concerned that the government was not looking seriously at better options for Melbourne, such as recycled water. This he thought was due to "the government chickening out because they have never really been prepared to confront the problems of convincing people that recycled water is perfectly okay".

In summary, people perceived what was at the heart of the conflict in a variety of ways. These included *beliefs* about water use, sharing and movement of water; practical *concerns* over technical and other issues with the pipeline and over the way the project had been initiated and was proceeding and *explanations* as to why people were protesting. These perspectives are summarised in Box 6.1.

Box 6.1 Summary of interviewee perceptions of the heart of the issue in the Victoria pipeline study

Those against:
- Wrong to take water from a dry system in crisis to an area of higher rainfall
- There is not enough water in Lake Eildon to take
- Water is needed by the current users (e.g. irrigators) and river systems
- Melbourne has other options to gain more water
- Lack of "due process" and consultation in the way the proposal was introduced
- Lack of consultation with landholders affected by the pipeline on their property
- Concern over potential for more water to be lost from the system through water trading
- Lack of detailed plans on the pipeline and the rush to construct it
- Deadline of 2010 to complete the pipeline seen as politically motivated and not genuine
- Lack of information on proposed savings: these need to be validated
- Potential impact on businesses that rely on Lake Eildon water levels

Those in favour
- It is fair to share the water if Melbourne needs it
- It is a practical solution based on real need
- The three-way split of the savings (Melbourne, irrigators, environment) is a good solution
- The savings are achievable by reconfiguring the irrigation backbone
- The protesters are exhibiting NIMBYism and exaggerating the impact
- People don't understand how the savings will be achieved and don't like change

Those neutral or undecided
- The pipeline may be a white elephant if it remains dry
- Can see merit but the idea has not been fully developed
- The way it has been handled and promoted was poor

6.2   *Unfolding events in a shifting context: a ripple of reactions*

As described in Chapter 4, the proposal was first introduced by the government in June 2007 and the fieldwork interviews took place in October 2008 (Chapter 3). In the intervening 16 months a progression of events took place which influenced people's perspectives about the proposal. These events started when the proposal was initiated and include interactions between proponents and opponents as subsequent events unfolded. Sections of the community reacted differently to events within this changing context.   Many interviewees described their experience of events which had become significant to them, and how their thinking and perspective had been influenced and shaped.   An understanding of the original setting and appreciation that the context continually moves or shifts is critical to the research. Significantly, some interviewees changed their views about the proposal as they learned more about the project after it had been introduced and as community interactions took place. Interviewee perspectives of key events and the consequences arising from these events are described in this section.

This section is structured around the three main interest groups to show the origins of the proposal and how events and reactions played out. The section does not present a detailed list of all the events that took place: rather it portrays the complexity of the changing context, while providing as much background perspective as possible. The information presented here provides insights into the way people developed their perspectives as events unfolded.

Foodbowl Unlimited: the context and origins of the proposal

According to several interviewees in the Shepparton district, the concept and original proposal behind The Food Bowl Modernisation Project came up in discussions within a group based in the Shepparton area, which was known as Foodbowl Unlimited. According to an original member of this group, a fourth-generation dairy farmer, a group of local business people from Foodbowl Unlimited discussed the main issues affecting the future of the area and "it all came back to water… water was the underlying factor that was going to change this area one way or another". From his perspective as a dairy farmer, who had invested heavily in infrastructure on his farm, "it was a case of how do we connect everything together" to secure water for the future. One of the main problems facing the region was that the irrigation infrastructure was seen to be "deteriorating markedly". Irrigator interviewees were generally in agreement about the declining state of the irrigation infrastructure and that something needed to be done. Another interviewee, a dairy farmer and also a member of a Foodbowl Unlimited, described some of the very complex interactions that he had been involved with over the years to address this issue. These were between the various irrigation industry associations, the Victorian state government, national farmer industry associations and the federal government. The interactions were frequently characterised by friction and disagreements between the groups. This interviewee explained at length the background context for why the Food Bowl Modernisation Project arose and how the trade-off to supply 75 Gigalitres to Melbourne came about. Essentially the irrigator groups could see that a massive investment was needed to upgrade the ageing irrigation infrastructure if there was to be a future for the region. But this was not on the scale that the irrigators themselves could afford. It needed government investment.

Various discussions had recently been taking place between the irrigators and state government and irrigators and the federal government. Under the National Water Initiative the irrigators themselves had to bear the cost of improvement and capital works. At the time the water shortage in Melbourne was becoming more acute and the state government was looking for options. The interviewee relating this background context frequently met with people from state and federal government, and in one discussion he described how a senior member of the federal government had made the point: "stop worrying about urban: they are going to take all the water they want off you, you are only farmers, you cannot afford it", implying that Melbourne Water could just come and buy the water. At the same time the State government was investing in smaller infrastructure upgrades in the irrigation area to restore water to the

environment. However, these upgrades were not going well: there were technical problems and irrigators complained that they were receiving poor service from Goulburn-Murray Water. In addition, irrigators were not entitled to any of the savings: the savings were all designated for the environment.

So, in a nutshell, according to this interviewee, "it was a convergence by chance of all sorts of things": Melbourne needed water; it could easily buy the water; irrigators needed an investment in the irrigation infrastructure which they could not afford; and irrigators were receiving a poor service while the upgrades were being carried out but would not benefit themselves from the inconvenience by gaining additional water. With these factors in mind a group of Shepparton-based business leaders from Foodbowl Unlimited came up with a proposal which they put to the state government and which became the Food Bowl Modernisation Project. The deal was worked out with John Brumby, who was at that time responsible for regional development, and who later became Premier of the State. The state government would put up $600 million, Melbourne Water would put up $300 million, and the irrigators put up $100 million. The savings would be shared between Melbourne, the environment and the irrigators. Of significant benefit for the irrigators was that the savings that would be returned would become part of their entitlement, which they would be able to trade.

However, one of the problems identified by the interviewee who had described this context in detail was the difficulty in getting people to understand the proposal. As he described it: "people are bamboozled… people can only assimilate two or three facets of an issue in their brain. This has six or seven facets. It has a time sequence associated with it".

The Food Bowl Modernisation Project: reactions from the Shepparton community

The Food Bowl Modernisation Project was not announced to the broader irrigation community as part of a structured media campaign: instead it was leaked to the media before an announcement was prepared. This was described by an interviewee who was in the Foodbowl Unlimited group, who admitted that people were caught off guard: "when it got dumped in the press it was all reactive stuff. We were not able to be proactive and sell the project in the way we should have". Many interviewees were angry that a small unelected group of business people had made such a deal with the government without involving the broader community. That the proposal was presented as a *fait accompli* was seen as "completely wrong" by an irrigator interviewee who said "they should have gone back to the irrigators to ask their opinion". For this irrigator the context of water trading and water security for the future was a major concern. He was opposed to taking water out of the district through trading because this was undermining the irrigation system and people were "losing belief in the irrigation system". Another irrigator, a member of Plug the Pipe and orchardist, suggested that the Foodbowl Unlimited group were aware that the proposal was likely to be unpopular and were delaying the

announcement until they had the details fully worked out. He suggested that many business people had originally been in favour but "jumped ship when they realised what was really going on" and some had come out publicly saying that they had been misled when they realised that the proposal was unpopular with members of the broader irrigation community. Another interviewee, an irrigator and transport operator, said that the information received was mainly "word of mouth…people did not know what was going on", and that there was no consultation at all.

An orchardist interviewee who originally supported the project changed his view as he learned more about it. He said that at first look 75 Gigalitres seemed a cheap price to pay for the upgrade considering that Lake Eildon holds 3000 Gigalitres when it is full. But on closer examination, he said, "it is an expensive price to pay" because "we don't lose that much water… much less can we save it". He summarised his objection as "our government is being expedient drawing water from a system that doesn't have the water to spare to put into a system that, at the end of the day, with proper planning doesn't need the water". He thought that the Foodbowl group had underestimated the level of opposition, and had not produced the factual evidence to support the savings. He suggested that there was no consultation because "it would have been difficult to make the call to do the project… so they sought to deliver a *fait accompli*".

The lack of consultation and the presentation of a *fait accompli* were consistently raised as issues by interviewees opposed to the project. A number of interviewees referred to a meeting, held in Shepparton in July 2007, at which the then treasurer Mr Brumby explained the proposal to an invited gathering of irrigators and business people. What raised the ire of these interviewees was the suggestion that this was merely a proposal and the meeting was to seek feedback. Two of these interviewees were very specific that Mr Brumby had assured the meeting that the proposal would not go ahead without public support. One said, "I expressed the view that it was flying right in the face of the commitment at the election where he said he would not do it", referring to the election promise not to take water from the North to the South. However, the following week an announcement was made that the decision had been made and that the proposal would go ahead. A day or two afterwards, television advertisements appeared with Premier Bracks flying across the state in a red helicopter, talking about the modernisation project and pipeline. What made the interviewees angry was that this was clearly previously decided well before the meeting and they felt they had been lied to by Mr Brumby. Mr Brumby had also met with members of local government in a similar meeting, according to an interviewee who was Mayor of a local council. In that meeting Mr Brumby had said that he would not take the proposal to cabinet unless he had their support: but that support was not given. Shortly after that Mr Brumby became Premier and initiated the Food Bowl Steering Committee (Chapter 4).

The Food Bowl Steering Committee had been charged with making recommendations for the implementation of the project. During production of the report many community meetings had taken place across Victoria. According to an irrigation farmer interviewee who was involved with Plug the Pipe, some of these meetings were fractious and "degenerated into a lot of angst, a lot of angry farmers, a lot of screaming matches". According to this interviewee the anger had been sparked because the report was merely a "collection of ideas… what we might do… there is no technical report, no costing, no business case, nothing that you would normally expect when you spend $1 billion". Following the meetings there was a submission period of six weeks for public comment. This interviewee was "outraged" by the fact that after 140 submissions, and several public meetings, "the final report came out and they had not changed one thing… so we had gone through all this angst and there were some serious concerns raised that were just completely ignored".

Plug the Pipe: the grassroots opposition movement

The Plug the Pipe movement was formed in 2007 in opposition to the government proposal to build the North South Pipeline. General membership, including several "area leaders", came from across northern Victoria. According to one member of Plug the Pipe, none of the people who formed the movement "have a high profile" and none of them wanted to be a public figure, but "somebody has to stand up and say hey this is stupid". One of the original members of the group described how a group of irrigators talked about their concern and worry about the proposal and how there had been no consultation or opportunity for input. He described it as "the mode of operation in this government is to make the decision and plant a consultation process on top of it". He also described his concerns that the project would mainly benefit Shepparton businesses that would benefit from the $1 billion expenditure, but this would be at the expense of irrigators. As he described it: "is it going to make your water cheaper? No it is not. Is it going to improve your water security? No it is not. Because of the urban grid." In response to the perceived threat of the urban water grid (Chapter 4) and the lack of any input to the process, the Plug the Pipe group, as described by another prominent member, decided to be "very vigorous… very vocal". Plug the Pipe used a variety of methods to voice their opposition to the pipeline. These included a media campaign, a website with regular newsletters, protest marches in Yea, Shepparton, Melbourne and Lake Eildon, and regular meetings to provide information. The lack of consultation by the government and by the Foodbowl Unlimited group was a consistent theme raised by many interviewees.

Plug the Pipe campaigners frequently attended meetings held by other organisations at which the Food Bowl Modernisation Project and pipeline were being discussed. According to a number of interviewees, these were often rowdy affairs, and on occasion eggs were thrown and cars were "keyed" or scratched. One interviewee described how a meeting had become so noisy that a member of the gathering stepped up to ask people to be quiet because no good purpose was being achieved. There was a good deal of criticism about some of the tactics of Plug the

Pipe, for example, a protest organised at the Premier's rural property, which became a media event, was seen as being damaging to their credibility. Many interviewees thought that Plug the Pipe had become too politicised and that one of the organisers in particular was using the movement as a political platform. One local councillor in the Yea district observed that some in the group were "careful thinkers" whereas some were "hotheads" and that this was a detraction of the movement. Another interviewee went further and described the group as being "rabid" because she thought they were out of control. Another Yea district interviewee suggested that the group had become "vigilantes" and that he was opposed the group, and would not go to group meetings because it had become "either you are with us or you are against us".

In the Yea community, Plug the Pipe had taken on a dual role: it was a protest group but it had also become a conveyor of information, through meetings and regular newsletters. According to one interviewee this was tacitly acknowledged by the local council because Plug the Pipe had received refunds for expenses incurred to advertise some public meetings. These meetings were organised to fill a perceived gap: the lack of consultation process by the government. However, this created divisions within the community because only people who were either members of Plug the Pipe or were sympathetic to them would attend the meetings. People who were leaning towards being either neutral or being slightly in favour of the pipeline did not attend. Three interviewees said that this was because they did not want to be seen as Plug the Pipe supporters. As a result there was no real debate of the pros and cons of the pipeline and the voice of Plug the Pipe had, in effect drowned or muted other voices. This caused fractures in the community because people became afraid or reluctant to air their views in case of offending a neighbour or a customer or member of their social group. One interviewee in a service industry described how she had withdrawn from any discussions about the pipeline because she was afraid of potential repercussions at her job if her views became known. She described how "the whole town is all of a sudden quite against everything, they don't want to hear" and that she had seen "lots of ugliness". As an example she described how an indigenous member of a team surveying the area for heritage sites was "spat on in the street by local people… it is just appalling".

Plug the Pipe also made recommendations to its members and others about how they should interact or not with the government. One farmer interviewee who was not affected by the pipeline said that she did not agree with the suggestion in one of Plug the Pipe's communications that people in the district should not let people onto their land for surveys. She thought it was a waste of taxpayer's money not to let them on her property. A Yea business owner said he thought Plug the Pipe had made a mistake in becoming too aligned with the Liberal party. He was critical of both Plug the Pipe and the government for "a degree of spin and irrationality" and "a lot of the things that have been put about don't stand up to much scrutiny". He suggested that the government propaganda had the effect of inducing those opposing them to use similar tactics.

In summary, this section has shown that the origins of a proposal and how events then unfold are critical factors in determining how people perceive the proposal itself and determine their subsequent position on it. In this case the lack of transparency around the origins of the Food Bowl Modernisation Project was a factor in forming people's concerns about the project as well as the way in which it was then handled by members of the community and the government. The formation of the opposition group, Plug the Pipe, and their activities also influenced people's perceptions and activities as the events unfolded. People altered their perspectives and some became more involved and some became more detached. Thus, there was a ripple of reactions throughout the communities. Interviewee perspectives on fairness and justice aspects of the proposal are discussed in the next section.

6.3   *Perspectives of fairness and justice: consultation and treatment*

This section describes interviewee perspectives on aspects of fairness and justice of the process that they experienced, including how they felt they were treated during the process. The interview questions included direct questions about fairness and justice as well as general questions about how they felt they were treated (Chapter 3). The flow of questions in the interview was such as to constantly remind the interviewee that the research was about their perspectives of fairness and justice from within this conflict. The three cards placed on the table in front of the interviewee displaying the words "fairness", "justice", and "injustice" also reminded them of the theme of the research. The timing of the interviews was such that much of the impact of the pipeline construction and irrigation modernisation project was still to come. Key areas of concern at this time were the lack of due process, lack of information and how people felt they had been treated. While some landholders affected by the pipeline coming through their property did experience some material and personal impact, the overall material impact of the proposal had not yet been widely felt throughout the communities. This section therefore is organised around the three areas of consultation, information and treatment.

Due process? Heavy-handed and shabby

Many interviewees commented on the lack of consultation and lack of process in which communities were able to discuss the project. Interviewees described how the government had failed to establish a consultation process as "shabby", "appalling" , "atrociously handled", "high-handed", "it was sprung on us", "it was dropped on them", "heavy-handed", and "we had no say". In evaluating this failure many interviewees suggested that it was unfair because there was no input to the decision-making process and there was little opportunity to engage with decision-makers after the project had been announced. This lack of "due process" was exacerbated by the environmental assessment process in which the Food Bowl Modernisation Project was assessed separately to the North South Pipeline. That these two infrastructure projects were being presented together as a single project, with one dependent on the other, yet

were not being assessed as such was seen to be unfair and unjust by several interviewees. One interviewee said that her main concern about this "divide and conquer" approach was that there was "no avenue … to go to for justice to be done".

Several interviewees who were neutral or in favour of the project also thought that there was a lack of communication by the government and by Foodbowl Unlimited. This lack of consultation was justified by two interviewees, who said that a decision needed to be made quickly and that a consultation process would only have delayed the project. One government agency employee who was familiar with the project thought that "it was not fair, but it had to be" because of the critical nature of Melbourne's water supply. This interviewee differentiated between consultation and communication. With consultation there is the implication that the decision can be changed, whereas communication is about keeping people informed. He added that he thought it would have been fairer to have "an 18 month process… before the final decision was made" but that "time simply was not available".

One of the original members of the Foodbowl Unlimited group acknowledged that some of the decisions the group had made had not been fair, particularly regarding communication and that "people have been ridden roughshod over". This was because the group was keen to seize the opportunity presented and that if more time had been given to community consultation then perhaps the deal may have "stalled". He acknowledged that there had been "a bit of injustice", justifying this with "sometimes a large population don't really know what is good for them" and "in 20 years time people will look back and say this is the best thing that ever happened in the Goulburn-Murray Valley". While there was criticism of the Foodbowl Unlimited group for not engaging the larger irrigation community in discussion about the deal with the government, there was also criticism of the government for making the decision before there was any public debate. An orchardist irrigator on one of the Water Service Committees, an advisory body to Goulburn-Murray Water, explained how he had "adopted a profile that is opposed to the pipeline and I have never been approached to this day by anybody in government authority to … see if we can fathom this out". He found this "frustrating" and "they are not delivering justice, or not delivering fairness… because they are not listening to a substantial groundswell. The fact is they can walk down the street anywhere they like and they will find nine people out of ten that don't want the pipe".

An interviewee in the Yea community who could see both sides of the issue explained that in the absence of a formal consultation process he had tried to work with both the government and the Plug the Pipe opposition group. However, he found that the government was "autocratic" and had underestimated the level of interest in the community. He also suggested that the Plug the Pipe group had an obligation to engage with the government which, in his opinion they had failed to do. He thought they had become too "emotive". While this interviewee thought that the term injustice was a "harsh assessment" he thought that "probably,

yes… the government has done an injustice" through its failure to effectively communicate with and engage the community.

The big picture: where are the facts?

The lack of detailed information about the Food Bowl Modernisation Project and North South Pipeline was a serious issue for many the interviewees. One business owner in Yea said that one of the reasons he was ambivalent or neutral about the project was that "I constantly have questions in my mind about trying to understand all the issues". Another interviewee in Yea, opposed to the project, said "I don't think we've been treated fairly because they don't tell you anything" about the pipeline and they are very "mum" and "keeping everything under their hat". She complained that they had not been given an opportunity to have a discussion "to know whether it was a good idea or not", which made her feel suspicious. A business owner in Lake Eildon described his numerous failed attempts to obtain detailed information from government departments about the proposed savings. He described how on many occasions he was told the data did not exist only to find out that there was a report in existence. He said he had now come to the point where he believed "Government is misleading the public. I see injustice in this particular state... the government is encouraging dishonesty", referring to the reluctance of government departments to provide him with detailed information. He suggested that "a project like this needs to be based on science and facts rather than political expediency".

An interviewee in Shepparton who was opposed to the pipeline had a similar concern about the validity of the water savings figures. He had carefully explained these in writing to the relevant government agency, but "they did not want to know about that… this was a lack of justice and a lack of fairness because people were actively promoting a story that they knew was wrong". This interviewee described fairness as "being open and honest. This is where this thing went off the rails at the start. It hasn't been fair… I don't think we have got to the justice stage yet… it will not be before the water is flowing to Melbourne… the justice aspect has yet to be seen". Another interviewee in the Shepparton area pointed out the unfairness of not being able to discuss the bigger picture issues, such as the details of savings or where the water was coming from in the combined project assessment process. She said "we were completely muzzled in that way… those were the only two formal consultation processes… they were completely unbalanced and completely unfair".

A councillor in Yea pointed out how the government would not engage in any debate about the bigger picture, and how difficult it was to get questions answered because so many government agencies were involved, each with a different set of accountabilities. This she thought was unfair and "because of the shifting focus …no one is actually responsible". Another councillor in the Yea area said "I don't think people have listened to the fact that Melbourne really is in desperate need", but acknowledged that she was in a "grey area" in her attitude to the pipeline because it had not been proven that the water savings were there. She was doubtful

that the community had the ability to take an overview perspective but also acknowledged that there had been no public consultation.

The lack of information about other options to secure water for Melbourne and why the pipeline was needed was raised by many interviewees. While this was not a primary focus of the interviews it was a persistent theme throughout the interviews and, together with the unvalidated savings, a major source of unease. A number of interviewees suggested that people in Melbourne, if they knew about the pipeline, would be against it, judging from their conversations with their friends. One lawyer in the Shepparton district, who was in favour of the pipeline subject to the savings being validated, said that in his view, from conversations with his circle of Melbourne friends, Melbourne people were against the pipeline because they felt that they should be saving more water, including stormwater. Other interviewees referred to media polls which showed 95% of people against the pipeline. But many felt that the pipeline was generally not being debated and it was only through the media campaign of Plug the Pipe that the pipeline had even received wider attention.

One of the consequences of a lack of public debate, suggested a Shepparton district dairy farmer, was that "a great deal of injustice is going to be done to the people without their knowing, without them being fully aware of what is going to happen". To another Yea interviewee the fact that there was no debate around the broader issues of the pipeline, such as the loss of water to that Murray–Darling Basin, was "the crucial issue" but "I don't think it's even seen as being important". A government agency employee in the Yea district, who was neutral about the pipeline, commented on his work and experience in general, "I don't think we achieve justice because there is not enough information in the first place which leads to situations where people go looking for justice… if the right information and all the information was there to start with we wouldn't have the conflict".

Interpersonal treatment: with disdain

There was widespread condemnation of the way the government had treated people within the communities at Yea and Shepparton, particularly by those who opposed the project. Many interviewees felt that they had not been treated with respect and used phrases such as "with absolute disdain"; "very poorly…disdainfully really"; "with contempt"; "shabbily"; "underhand and devious"; "we were totally ignored". One Yea interviewee felt that she had been treated like "a French peasant". A Yea interviewee who said that she was "neutral to opposed" to the pipeline said she felt the government had treated the community as "just a lot of country hicks" which "engenders this feeling of disempowerment". A local councillor in the Shepparton district described how his local council, the planning authority for the area, had not been involved at all in the development of the Food Bowl Modernisation Project which he described as "pretty shameful" treatment.

A local councillor in the Yea district described a public information meeting organised by the Council just after the project had been announced, at which a senior government agency employee had addressed the gathering. The local councillor interviewee summarised the government's overall message as being "that Melbourne had a really bad summer and that they needed the water more than we did". She described her reaction: "it wasn't fair, but it was more than that, it was insulting. It sent a message that we really didn't matter in the bush, that our needs and our conditions, our lived experience, wasn't as worthy as those in Melbourne". This interviewee recounted her experience of subsequent government attitudes, including a radio interview where Minister Holding (the Minister for Water) had referred to "the few people that oppose it" when clearly the opposition was more widespread. Her reaction was to call her local Parliamentary member to complain "that they won't even acknowledge the scope of the objection" which she found "demeaning and insulting". Several interviewees in the Yea district described the government as having "continually lied" about the extent of the opposition, for example minimising the number of landholders opposed to having the pipeline cross their property.

A number of interviewees recalled the election promise by the then Premier Bracks that water would not be taken from the north of the divide to the south. A Shepparton irrigator's reaction to the broken promise was "if we had done that in business no one would deal with you". A government employee in favour of the project described his "moral dilemma" upon hearing about the government change of policy on this election promise. He elaborated that while governments must be able to change their minds "people have to have enough time to get used to it" and that the communication was lacking in this case. A government agency employee in the Yea district who was not involved with the protest and had a neutral attitude to the pipeline said he thought "the injustice has been the fact that they haven't taken into account private individuals' concerns and spent enough time to explain the whole thing to them". Only one interviewee in the Yea district suggested that the Yea community had been treated fairly. He was in favour of the project and believed that the protesters were being closed minded. He summarised the government's position as "I think they are being upfront. They must have done some research to come up with a three-way split. They brought it to the town and they had an open meeting. I don't think you can be much fairer than that".

This section has shown that how people feel that they are treated within a process and how the process is conducted taps deeply into their thoughts about fairness, justice and injustice. The lack of a process in which people could participate and the lack of engagement by the government of the people that were concerned about the proposal were widely perceived as unfair or unjust. Interviewees also perceived unfairness or injustice where information was not made available, where it was seen to be kept secret and where the facts were not subject to the scrutiny of debate. However, there were also different perspectives about what was fair under the circumstances and who was being fair to whom.

6.4 Summary: a complex proposal and a complex set of perspectives

What is striking about this project is the high degree of complexity of the proposal. Although these two projects, the Food Bowl Modernisation Project and the North South Pipeline were initiated together and were inextricably linked from a political and funding perspective, they had little else in common. Yet two different regional communities comprising many social groups were deeply affected by the joint proposal. People in these social groups had to come to grips with what the project was about, why it had come about, how it affected them, how they could respond to it and how their issues could be addressed. In the Yea community there was significant opposition to the pipeline: the pipeline and loss of water from the river system was the principal concern. In Shepparton, there was opposition to the pipeline, but there was also opposition to the irrigation upgrade "deal" and how it had been initiated. So there was a different type of opposition in each area, but strongly connected by the Plug the Pipe movement, whose leadership came from both areas.

At the heart of the issue was a complex and interlinked set of beliefs, concerns, assumptions, arguments and viewpoints underlying the perspectives and positions held by stakeholders concerned about this proposal. There was a wide diversity of perspectives throughout the two communities, with many perspectives in complete opposition to each other. Some interviewees were deeply connected with the issues and some not connected at all but still had opinions about the issue and about the reason for the opposition. Many interviewees were concerned as much about the proposal as about the process and how people had been treated. Evaluations of fairness and justice included matters of process, treatment and the availability and access to information about the proposal. How people were able to engage with the government or the opposition group also tapped into thoughts of fairness and justice. The lack of consideration and engagement by the government, particularly in the Yea area, was widely seen as unjust. Understanding the project rationale, getting details about different aspects of the project and being able to sort out whether and to what degree the project would have an impact on themselves or their community were critical factors in the formation of their perspectives. These processes varied across the different social groupings involved in the Yea and Shepparton communities. A ripple effect of events and reactions was generated that resulted in disagreements, tensions and divisions between communities and the government and between different social groups within communities. Stakeholder perspectives and attitudes towards the original proposal were influenced, and in some cases were changed, as a result of the reactions of some social groups. The next chapter examines individual stakeholder perspectives and how these are connected to justice and fairness.

Chapter 7: Finding injustice - seeking justice

The North South Pipeline, Victoria, December 2008

(Photos: Catherine Gross)

A central aim of this thesis is to find out how people interpret and react to fairness and justice, or the lack of fairness or justice, in environmental decision-making, particularly in relation to water, a scarce natural resource (Chapter 1). As Chapter 3 describes, the research approach developed in this thesis utilises case studies in which there are current social conflicts as a way of investigating how people conceptualise and react to fairness or the lack of fairness. Chapters 5 and 6 provided an overview of the two case studies in which people's perceptions of fairness and unfairness and their associated reactions were explored. An investigative framework (Chapter 3) was used as a justice lens into these conflicts through which the fairness of processes and outcomes were explored. The first level of analysis of these conflicts is provided in Chapters 5 and 6, which showed that many different perspectives were held by a range of stakeholders within each conflict and that these were complex and interconnected. These chapters highlighted key areas within each conflict and showed the importance of the changing context and how earlier and current societal tensions and themes emerged as interviewees related their experiences.

In this chapter the analysis steps fully into the realm of justice and fairness. In the first section interviewee conceptions of fairness and justice are analysed. The second section describes how perceptions of injustice and the concept of injustice emerged from the empirical data in the first case study and then explores perceptions of injustice in a the second case study and round three interviews (Chapter 3). The final section takes the analysis one step further by investigating why people engage in issues of justice and their possible underlying motives for seeking justice.

7.1   Interviewee conceptions of "fairness" and "justice"

Fairness

There was a wide range of interviewee conceptions of the word fairness. As the interviews progressed some recurring themes in the way in which people thought about fairness emerged. From these patterns thirteen categories were identified (Table 7.1). The aim here is not to present a full range of potential fairness conceptions or a typology of fairness *per se*. Nor is it to present a quantitative assessment of responses. Rather, the categories in Table 7.1 have been developed to show the diversity, richness and range of fairness conceptions that emerge from the empirical data. An example from the data is provided to illustrate each category. Some of the interviewee responses could have fitted into more than one category because people often made more than one point about how they understood the term. The main aim here is to explore what the terms fairness and justice mean to people and how they understand or describe these notions, hence the content of the responses and how they relate to each other is the focus.

Table 7.1 Interviewee conceptions of fairness

1	**Fairness as how people deal with one another**
	"fairness is treating people in a fair and even manner"
2	**Fairness as consideration and respect in the big picture**
	"where people are treated with consideration, listened to and treated with respect and then considered in an overall position activity"
3	**Fairness as everybody gets a fair-go**
	"fairness is that everyone gets the same go, everyone gets an equal go"
4	**Fairness as basic morals and doing the right thing**
	"with fairness I think of basic morals… on a day-to-day basis with those around you"
5	**Fairness as dealing with an issue to achieve a reasonable outcome**
	"if an issue has been handled to achieve the best community decision bearing in mind the impact of winners and losers has been considered"
6	**Fairness as equity**
	"fairness is an equitable result to all concerned, to all stakeholders"
7	**Fairness as different to equity**
	"fairness and equity are not the same thing. I see equity as treating everybody the same, but this is not necessarily fair because we do not all come together as being the same"
8	**Fairness as equality**
	"fairness is about equality. Equality is about balanced decisions"
9	**Fairness as different to equality**
	"there is a difference between fairness and equality, take farm succession planning. What is fair is that farm kids retain more than town kids, but what is equal is that they would all get an equal share of it which would not necessarily be fair"
10	**Fairness as needs being met**
	"fairness to everyone means taking into account their particular needs"
11	**Fairness as balanced**
	"fairness is balanced, neither to the left nor to the right, neither zealot nor impassion"
12	**Fairness as a remedy for failed justice**
	"fairness is when justice does not work… something might be just but it is not fair"
13	**Fairness as a personal viewpoint**
	"fairness relates to more of a personal feeling, we all see fairness from our own point of view which in fact is never fair because everyone has a different point of view"

The first category contains interviewee responses in which fairness is considered to be the way in which people deal with or treat one another. Responses in this category were largely concerned with how individuals treat other individuals, or interactions between individuals within a community. Examples of such responses include "others treating you the way you would like to be treated"; "treating people in a fair and even manner" and being "fair to everybody involved". In the second category interviewee responses suggested that fairness was concerned with being given the right level of consideration and respect in the big picture. Examples of such responses include "fairness is where people are treated with consideration, listened to and treated with respect and then considered in an overall position" and "in fairness you get both sides of the fence and look at the whole issue from all angles". The fairness implication in this category is concerned with interactions between an organisation and an

individual, rather than between individuals: organizations or decision-makers had a responsibility to consider an individual's circumstances within the bigger picture. In the third category interviewees thought that fairness was to do with the frequently used egalitarian notion of a "fair-go" or equal opportunity. Examples of such responses include "fairness is you should treat everyone fairly, give them a fair-go"; "fairness means equal opportunities for everybody" and "everybody gets a fair-go".

The fourth category concerns responses that involve morality, such as how individuals operate on a day-to-day basis where fairness is "doing the right thing". For example, "to be fair to someone is what you would think the right thing to do, to be a fair person". The next two categories involve responses that were concerned with outcomes: how an issue has been handled to achieve "a reasonable outcome" and that fairness was "an equitable result". For example, "fairness means common sense, what is fair and reasonable and if there is a reasonable outcome"; "fairness is just equity, sharing" and "fairness is what equity would dictate". One interviewee suggested that fairness was not the same as equity and another suggested that fairness was not the same as equality. Both gave examples to illustrate what they meant (see Table 7.1). Two interviewees suggested that fairness was "needs being met". One interviewee suggested that fairness was "equality or a balanced decision, and another suggested that fairness was "balanced, neither to the left nor to the right". One interviewee suggested that fairness was "a remedy for failed justice" in which the justice system had not produced a fair outcome and another thought that fairness was a personal viewpoint: "we all see fairness from our own point of view which in fact is never fair because everyone has a different point of view".

This diversity and range of responses shows that "fairness" holds different meanings for people across a broad spectrum of how people treat each other, how processes are conducted and outcomes achieved and according to morality and what is perceived to be right. These empirical findings are in accordance with the research of Finkel *et al.* (2001:7) who suggest that fairness is not "a unitary concept, but one with multiple meanings" (Chapter 2). Some responses about fairness alluded to justice principles such as need, equality and equity, as well as the notions of egalitarianism and the "fair-go" and to the concept of justice itself. However, these references to justice principles were limited and fragmentary, some with examples and some indicating confusion about the meaning of a justice principle (e.g. "I see equity as treating everybody the same"). This suggests that interviewees in these case studies did not have a clear or definitive understanding of the meanings or range of justice principles, namely, need, equity and equality. On the other hand, responses which included examples drawn from current or past situations, for example where equity and equality were compared to fairness, did show that people *think* about these theoretical concepts in direct relation to their own lived experience.

Several interviewees did not respond directly to the question about *abstract* notions of fairness or justice: these interviewees seemed only to be able to respond in contextual terms of

the conflict itself. Even interviewees who were articulate about what these terms meant in the abstract also used examples from their lived experience to provide added depth to their response. These findings show that in many cases the current context had a level of influence on these "abstract" conceptions of fairness. In other words, these so-called abstract conceptions had varying degrees of abstraction, with some situated in the current context. This depends on the degree of involvement of the respondents in the conflict and their perspective on what has taken place. It is possible, then, that there is a continuum of how much a current context influences people's conceptions of abstract notions, ranging from little or no influence to significant influence.

Justice

The range of responses for the term justice was narrower than for the term fairness. Responses have been separated into seven categories shown in Table 7.2. Again, as with fairness categories in Table 7.1, the categories were selected to show the range and diversity of responses from the empirical data. The first category includes interviewee responses in which justice is described as the legal system within society. Examples include: "Justice conjures up views of the legal system and penalties for wrongdoing" and "Justice is the legal system and if fairness does not work then you have to use justice and quite often justice does not work". The second category contains interviewee responses in which justice is considered to be the right outcome based on evidence: "Justice is about coming to an appropriate conclusion which is based on good facts and good analysis" and "Justice is a right and proper outcome". In the third category interviewee responses consider justice as a system to deal with a grievance, often to deal with a previous unjust outcome, such as "where a wrong has been done and you expect to have the wrong righted". Other examples include: "the law appropriately dealing with something that is wrong" and "justice means whether people had a grievance and had gone through a process where their perceived injustices were dealt with by the community".

Table 7.2 Interviewee conceptions of justice

1	**Justice as the legal system** "when I think of justice I think of lawyers and the law. It is all the legal parts of society"
2	**Justice as a right outcome based on evidence** "Justice is the right decision made on all the evidence available at the time"
3	**Justice is a system to deal with a grievance** "Justice is where a wrong has been done and you expect to have the wrong righted and dealt with"
4	**Justice as what is within the law** "Justice is about the law and we have to abide by the rules, not necessarily rules that fit everyone but that is how we make a civil society"
5	**Justice as a legal result** "Justice is the outcome of being involved in the legal system"
6	**Justice as the political system and the legal system** "Justice is legalistic and perhaps political"
7	**Justice as your right to have an opinion** "Justice means everybody is entitled to have an opinion, to have their opinion respected and recognized"

In the fourth category, interviewees understand justice to be people abiding by the laws within society: "Justice is adhering to the codified laws of the land or the norms or the decrees that come from elsewhere". The influence of context can also be seen, for example: "Justice means that you have rules or laws that people are obliged to live by: it should apply to all people and not to selected people". In the fifth category, interviewees suggest that justice is a legal result "Justice can be interpreted as a legal result which comes from fair dealing or non-fair dealing as the case may be". One interviewee perceived justice as the "political system and the legal system" adding "that is a joke, if you are very rich you can afford barristers, if you are very poor they get paid for by the government and in between you cannot afford it so you cop it sweet". Another interviewee suggested that justice is more about "the right to have an opinion" and to "have their opinion respected and recognized".

As with conceptions of fairness described above, these conceptions of justice show a range and diversity of understandings and meanings across processes and outcomes. They also show that people think about justice not only in terms of a system or an outcome, but also in terms of the relationships between justice and the legal system, justice and fairness and justice and civil society. Further, the influence of context can also be seen from some of the responses, and, as with conceptions of fairness, it is likely that these "abstract" conceptions of justice are also influenced by the current context and lived experience of the interviewee.

Distinguishing between fairness and justice

Interviewees were asked whether they distinguished between fairness and justice (Chapter 3). While not all interviewees responded to this part of the question, some interviewees became quite engaged in discussing the differences and relationship between justice and fairness. It seemed that for many interviewees this distinction was not something that they had thought about before. Although this was not a primary focus of the interviews some themes emerge and responses can be grouped into five categories (Table 7.3).

Table 7.3 Interviewee conceptions of fairness and justice noting similarities and differences

1	**Fairness and justice are similar**
	"Justice and fairness to me are both the same: they are synonymous. Justice is more of a formal term. Fairness is perhaps the layman's way of looking at it. Justice tends to be after the event. Fairness tends to be before the event."
2	**Justice should give fairness**
	"If someone commits a crime then justice is the punishment and the people who are affected by the crime would get compensation or recognition. If the two are working together you get fairness with the justice system hopefully."
3	**Justice, legality and fairness. Differing boundaries**
	"Justice is not always legal. I suppose there are a lot of ways you can look at justice, but justice is done if a wrong is righted. And that does not necessarily have to be legal"
4	**Differences between fairness and justice**
	"In my mind justice is a heavier word compared to fairness. You might be a bit waffly on the facts and I will be fair to you, but in justice I need to know the facts"
5	**Fairness and justice create the whole picture**
	"I think fairness and justice is the whole picture… if you do not get fairness in some action then it is unjust, or it is not justice in the legal sense… so it is something that goes hand in hand"

In the first category, interviewees consider fairness and justice to be similar or interchangeable. However, it is interesting that while some respondents started out by saying that they thought the terms were interchangeable or synonymous they then went on to say where they were actually different, for example:

> I think the terms are interchangeable with each other… Fairness feels like it is about a process… justice is about the outcome of that process and whether people feel like the outcome is what they expected and whether it impinges upon their rights.

In comparing these terms, this interviewee saw areas that were interchangeable but also thought that fairness was more about process and justice more about the outcome of that process. Another interviewee who described the terms as "the same, they are synonymous" then went on to describe justice as "more of a formal term" whereas fairness is "the layman's way of looking at it" (Table 7.3). This interviewee was quite specific in describing the terms as having the same *meaning*, but who *used* each term and when it was used were the main differences. The

implication here is that the terms have the same general meaning but the context determines when each one is used. Another interviewee in this category thought that fairness and justice were both "about truth and openness" and stated "I don't distinguish between them". Some interviewees defined the terms justice and fairness in relation to each other, for example "Justice is whether people are treated fairly and fairness is whether justice is meted out".

In the second category, the relationship between justice and fairness was that "justice should give fairness", but that this did not always happen. For example "if justice is properly applied it is fair and you get fairness if you are given justice". Another interviewee suggested "just and fair probably are along the same lines. Justice is that the law is there, but if you have a law that seems silly or unjust it may not always be fair". Again some contextual differences from the case of studies could be identified in these responses, such as "a sector of the community can get justice but it may not be fairness to the total community". In the third category different boundaries between justice, legality and fairness were described, for example, that "Justice is not always legal" and "fairness is what is equitable and fair but may not be legally correct". Another interviewee suggested that "justice comes as a result of unfairness, because if everybody dealt fairly with one another there would not be any need for justice". Another said that in his view there was a legal system in Australia but not a justice system in that "a process may be legal, but not based on justice".

In the fourth category, interviewees pointed out what they saw as differences between fairness and justice, for example, fairness being "more intangible" than justice and justice requiring more "facts" than fairness. Finally, in the fifth category one interviewee thought that fairness and justice go "hand in hand" and combine to create a "whole picture" continuing: "if you do not get fairness in some action then it is unjust or it is not justice in the legal sense".

These conceptions of fairness and justice, in which interviewees commented on the relationship between the two terms as well as similarities and differences between the two terms, show that people clearly do differentiate between fairness and justice but recognize that there are boundaries, areas of overlap, similarities and differences. Even where interviewees described the terms as interchangeable, they pointed out where they thought there were differences between these terms, for example, in the way the terms are used, formally or informally, the degree to which facts and evidence are required and in what type of situations each term would be used. Thus it is not just the meaning of the two terms that people see differently it is also the particular context in which the terms are used, for example an every-day context or a formal, legal context.

Summary: fairness and justice

Some key findings emerge from this analysis. A first key finding is that interviewees described their conceptions of fairness and justice in terms of the way people are treated in processes, how processes are conducted, how outcomes are arrived at, and how the notions of equity, equality and need are considered. Thus it is clear from this empirical data that these conceptions of fairness and justice are concerned with the way people are treated within processes and how satisfactory outcomes can be achieved. The second key finding is that people do distinguish between fairness and justice. Fairness is largely seen to be about informal interactions on a day-to-day basis between individuals, incorporating what is seen to be reasonable to those concerned. Justice is largely viewed as the legal system in which more formal factually-based deliberations occur to achieve a good or just outcome. A third key finding is that the distinction between fairness and justice is not always clear-cut and people's conceptions show considerable complexity, interconnections between the two terms, overlapping areas and some confusion. There is richness and diversity within these conceptions where edges are blurred, where similarities and differences can be seen and where there are complex associations, connections and relationships. For example, a person might see justice and fairness as being similar or interchangeable but also comment on differences and similarities. The empirical data shows that fairness and justice are not simple concepts to understand or define.

A fourth key finding is that context plays an important part in people's conceptions of fairness and justice, even in so-called "abstract" conceptions. That some interviewees were so caught up in the context that they were unable to express an abstract conceptualisation of these terms is one indication that context plays an important part. The empirical data shows that people do think deeply about fairness and justice in their lives and many have deep moral beliefs about what is right in a given situation. Many have views of what they think justice and fairness should provide and have developed thoughts and attitudes about what they perceive to be the justice system or legal system from their own lived experience. These findings reveal a continuum of contextual influence that ranges from a point where there is little to no influence to a position where context is a substantial influence on the interviewee. In the former case this may be because the interviewee is a minimally affected bystander who draws on earlier lived experiences to formulate conceptions of justice and fairness. For example, an interviewee at an early stage of a process may perceive justice or fairness to be concerned with involvement in the process itself, whereas an interviewee at a later stage, when an outcome is known, may be more concerned with fairness or justice aspects of the outcome, such as "righting a wrong".

7.2 The emergence of injustice

7.2.1 Injustice in the NSW carry-over water study
Injustice in process and outcome: the way it was done; the water was ours

While the original intention of this research was to explore perceptions of fairness and justice in a social conflict, I found that widespread perceptions of *injustice* and *unfairness* were at the core of the social conflict in the NSW carry-over water study. As described in Chapter 5, people's perceptions of the issue at the heart of the protest varied according to their own circumstances, but there was widespread concern across the community and this was not restricted to material or financial concerns: it also included social and personal aspects of what was happening within the community. While the core issue was a perceived violation of a property right—"the heart of the protest is that the water was ours"—the way the irrigation community had been *treated* was perceived to be equally important by many, resulting in high levels of dissatisfaction and strong personal expressions of emotions. Many community members described the action by the government as both unfair and unjust when asked to summarise their thoughts about the management of the carry-over water issue. These summaries included such descriptions as "grossly unfair"; "unfair and poorly managed"; "extremely unfair"; "justice has not been done" and "there is no fairness or any justice in what has happened".

There was perceived injustice in the outcome of the decision, with nuances about how the cutbacks were unfairly allocated amongst different groups of irrigators; perceived injustice in the way irrigators had not been informed or included in the decision-making process "it was the way it was done, not why it was done"; perceived injustice in the way the community had not been treated with respect, "a complete contempt", and perceived injustice in the way the government responded with its Extraordinary Assistance Package following the protest (Chapter 4). There were several perceived injustices with this package. The first was that the government response was a general response, not a specific response to the issue. The package did not provide direct compensation for each Megalitre of water taken from each irrigator. Instead the package offered general financial assistance to any farmer who could demonstrate financial hardship. Second, the amount was capped at $50,000, perceived by many to be inadequate in relation to their actual loss. Third, the administrative process to apply for this package was perceived to be unnecessarily complex.

These different perceptions of injustice amount to a series of separate injustices, all related to the original water cutback, but each taking on a separate identity. Connections between these key perceived injustices and the different types of justice (procedural, interactional and distributive) are summarised in Table 7.4. While the injustice of inequitable burdens was central to the conflict, the importance of interactional justice and procedural justice was clearly portrayed by the calls for respectful treatment, recognition, information and inclusion.

Table 7.4 Perceptions of injustice in the NSW carry-over water study

Perception of injustice	Type of justice violated
Lack of notification, information and involvement	Procedural justice
Lack of respect in the way people were treated	Interactional justice
Perceived entitlement /property removed	Distributive justice
Burden of cutback inequitably distributed amongst irrigator groups	Distributive justice
Lack of recognition of actual harm done	Distributive justice
Equitable compensation not offered	Distributive justice
Inequity of Extraordinary Assistance Package	Distributive justice

No recognition of harm

Emerging from this research is the idea that the way in which the material, social and personal impacts of the carry-over water cutbacks were perceived by many as being interwoven, and contributing to a sense of harm to the current and future well-being of the community. As described in Chapter 5, the impact of the carry-over water cutbacks was wide-ranging across the community. While there was clearly an obvious direct material impact to those irrigators who had lost water in the cutbacks, there was also a range of social and personal impacts as the implications of the government decision became apparent throughout the community.   The social and personal impacts had affected relationships, personal beliefs and people's confidence in the future in relation to the stability and structure of the community.   Three business community leaders described the overall impact as a demoralisation, an erosion of confidence and destabilisation of the community:

> The carry-over issue affects even the people not directly impacted, because there is an emotional impact—demoralization—because of the process itself.

> I put confidence under a personal banner. We are struggling to keep the confidence level up with all these changes… we need some sort of belief in the future.

> It has hurt the community because it has destabilised the community. What underpins communities is partly the ability of people to be optimistic, to be positive about the future, therefore they are prepared to invest. Yet that action has destabilised those things.

A perceived injustice here was that none of these impacts had been recognized as such by the government, nor was the actual harm that had been done recognized as harm, which in many cases could be irreversible. As one community leader put it: "farmers have been crucified". The failure to recognize the value of the water to the irrigator at the time of the cutbacks was seen as a clear and obvious example of this lack of recognition. That the government had offered to

replace the water in a future year was described as unrealistic and further evidence of the lack of understanding of the actual impact of the cutbacks. However, the actual harm extended further than material harm. The actual harm was also experienced within the community in terms of damage to the social structure of the community as described in the quotations by community leaders above. As many interviewees had commented, the social structure of the community depended on the well-being and health of the community.

One aspect of this well-being depended on co-operation and a shared understanding of community life and needs between the rural community and city-based government agencies. But there had been a gradual erosion in the common understanding of rural matters, with the withdrawal of government agencies from the area along with a perceived decline in community well-being. With the government withdrawal was an associated loss of people from the area who had contributed much to the social and intellectual capital of the community as well as contributing to dialogue and understanding between city-based and rural government agencies. That this harm to the community's viability was not recognized by governments in their cost-cutting measures was clear to some interviewees. One interviewee commented on the general lack of government willingness to recognize the social impacts of government decisions:

> in 10 years there has never been a true socio-economic impact study done
> along the Murray River on the changes to water management

For this interviewee the carry-over water cutback was yet another decision made by a government that didn't understand how their decisions actually impacted communities: "these are things that bureaucrats don't understand". Interestingly, while very clearly articulating her beliefs about the way governments treated rural communities—"rural communities are rarely treated with respect: if there are no votes in it then we don't count"—this interviewee also thought that the term "fairness" was not applicable to the carry-over situation. She thought that a better way to describe it would be "badly managed" because "what is fair isn't always relevant when you get to a desperate situation and the drought has caused a desperate situation". However, she felt that the government had demonstrated "ignorance of the issue, which is not an excuse" and that "there was certainly not fairness".

This interviewee's perspective on fairness shows the complexity of their context and the way in which some members of the community perceived the carry-over issue within the broader and longer-term context of water management and rural-government relations. In contrast to other interviewees, this community leader did not use the term unfair to describe the handling of the specific carry-over water process: for her the unfairness was rather a long-standing lack of recognition whereby the community was not considered within the overall picture and not treated with respect. This interviewee's perspective stands out for two reasons: first, in the way she did not perceive the handling of the carry-over process as unfair, preferring

to use the term "badly managed"; and second, because she perceived unfairness in how water management as a whole was managed by the government.

7.2.2   Injustice in the Victoria pipeline study

With the emergence of injustice in the NSW case study, interviewees in the second case study were asked directly what they understood by the term "injustice" in the abstract. This question was posed immediately after interviewees had talked about their abstract conceptions of "fairness" and "justice".

Abstract conceptions of injustice

Interviewees in the Victoria pipeline study generally had little hesitation in describing their thoughts on "injustice". There was a diversity of responses which largely fall into four categories (Table 7.5).

Table 7.5 Interviewee conceptions of injustice in the Victoria study

1	**Injustice as harm or disadvantage** "when one area is going to be disadvantaged to the benefit of another area"
2	**Injustice as unfair, not right or where the justice system has failed** "when it is not fair, not right"; " when something is morally indefensible"
3	**Injustice as unfair treatment** " when somebody is not a listened to or considered important enough to be listened to"
4	**Injustice as power** "when a group of people think they are above the law and they can do what they like"

In the first category, injustice is seen either as causing harm or some disadvantage to a person or group of people or as a required action not being taken when such a harm has been done. For example, one interviewee described injustice as "something that you start to react to, it provokes people to stand up and start fighting for their rights, when people perceive themselves as being victims of injustice it provokes a response". Another described it as "taking something away from someone that you are not supposed to". One interviewee compared injustice to bad luck: "injustice would have to be dependent on the context, it is formally delivered rather than just natural bad luck". Another described it as "where it affects somebody enormously, emotionally or financially, where they have no say or input". These conceptions of injustice imply that there is an agent causing the injustice which results in harm or disadvantage to those affected by it. Along the same lines one interviewee suggested that injustice was "where rules are imposed on people to suit the majority and minority falls through the cracks" implying that injustice could occur through democratic processes.

In the second category, injustice is conceptualised as failure of the justice system or where an action has been taken that is perceived to be not right or unfair. Interviewee responses

suggest that injustice is: "where the justice system has failed, for example with David Hicks" (referring to the case of David Hicks, the Australian held in Guantanamo Bay prison); "outside the justice system and is similar to being unfair" and "when people have not been treated fairly". One interviewee suggested that injustice could occur within the legal system "where laws are rigorously applied without taking into account the individual circumstances". In the third category, people thought that injustice was related to how people were treated such as "being lied to"; "when somebody is not listened to" and "when the state pulls tricks on you without having a talk to you". Another interviewee suggested that injustice took place "when people close their minds, when they lose the ability to look sideways and see other people's points of view". Finally, in the fourth category, injustice as power was suggested, for example, "when a group of people think that they are above the law and they can do what they like". Another suggested that injustice is "to do with misinformation, where the government is misleading the public".

In summary, for many interviewees injustice represented harm or disadvantage caused by an external agent, whether this was the government or another community group. For others it was more about something that was wrong or perceived unfairness in the way that someone had been dealt with. Several interviewees thought that injustice was to do with the way people are treated and finally, some thought that it was when one group of people exerted power over another group of people. From these conceptions of the term "injustice" in the Victoria pipeline study it can be seen that there are strong contextual influences in the way people thought about injustice and what it meant to them. For example, the interviewee who was concerned about "misinformation" had been working—largely unsuccessfully—to obtain detailed information from various government agencies about the proposed water savings in the irrigation area. The interviewee who described injustice as "disadvantage" to the benefit of another area was strongly against taking water from the Goulburn River system to benefit people in the city of Melbourne who she believed had other options.

Injustice in process and outcomes: shabby treatment; flawed policy

As in the NSW carry-over water study, there were widespread perceptions of unfairness and injustice in the Victoria pipeline study. Also similar to the NSW study, perceptions of injustice in the Victoria study due to government action ranged from the way people were treated, the way the process was conducted to the decisions and proposed outcomes. These perceptions of injustice and the associated type of justice violated are summarised in Table 7.6., with the three types of justice carried forward from Chapter 2. As reviewed in Chapter 6 there was a broad-based criticism of the way the government had approached the two combined projects and how the communities had been treated. Most interviewees acknowledged that the government had not handled the project well, particularly in the way that it was introduced, and many described some aspect of the process or outcome as unjust or unfair. Even people in favour of the combined project recognized that there were injustices in both the way people had

been dealt with and in some areas of the final outcome. Which type of injustice was perceived as important varied according to each interviewee: some felt more strongly about the outcome itself, for example taking water away from the environment; whereas some were more concerned about the way they had been treated, individually and as members of a community.

Table 7.6 Perceptions of injustice in the Victoria pipeline study relating to the government action

Perception of injustice	Type of justice violated
Disdainful treatment of affected communities	Interactional justice
To break an election promise and lie in meetings	Interactional justice
Lack of consultation regarding initiation of pipeline and irrigation modernisation project	Procedural justice
Lack of information on pipeline and water savings	Procedural justice
To continue the process with inadequate consultation	Procedural justice
Lack of an environmental assessment which considers the pipeline and irrigation upgrade together	Procedural justice
Impact on the environment: removal of water from river system and loss of water flow	Distributive justice
Proposal based on unsatisfactory justification of "need" by Melbourne when other options for increasing Melbourne water supply have not been fully explored	Distributive justice
To remove water from irrigators who have paid for it through their annual fees and capital purchase	Distributive justice
To base the project on future water savings that are unvalidated and contested	Distributive justice

Interactional injustice was perceived in the way individuals, communities and local government had been treated through being excluded from planning processes and from implications by government spokespeople that their views and issues were less important than Melbourne's need for water. The way government officials had been perceived to have broken election promises and lied in meetings were injustices felt at the personal level by those who attended the meetings. Procedural injustice was perceived in the way the concepts were conceived and turned into public policy and decisions made without full consultation of those affected. The lack of information and reluctance to provide details about the pipeline and water savings were perceived to be procedurally unjust. This procedural injustice was compounded with the "contrived" and "unbalanced" approach perceived by interviewees to the environmental assessment in which there was no overall environmental assessment thought to have been done by the government on the overall movement of water.

Distributive injustice was perceived in many areas ranging from the immediate outcome to what people could see were hidden and future injustices. There was injustice to landholders affected by the pipeline who had already been subjected to the outcome of uncertainty regarding how the pipeline would affect their property. Irrigators perceived an injustice because water

availability for irrigation would be reduced in spite of their entitlement and that they paid annual fees for the water. Many different stakeholders perceived an injustice to the environment, such as through loss of water in the river system, through extra greenhouse gases generated by the pipeline pumping stations and through destruction of woodland habitat for the pipeline. The basis for the proposal was disputed and perceived to be unjust by those who believed that neither the "need" for Melbourne had been established nor had the water savings been validated. Thus some perceived that the proposal would have hidden injustices that would manifest themselves in the future when the impact of the unrealised savings became apparent. Ratepayers in Melbourne and rural areas would bear the cost of the infrastructure by paying more for water.

Ripples of injustice through the community

The state government of Victoria was heavily criticised for the action or inaction associated with these perceived injustices. But blame for *all* instances of injustice did not rest with the government alone. As described in Chapter 6, the government announcement of the pipeline and infrastructure upgrade was the start of a series of events which led to further perceptions of injustice as people reacted within their own set of circumstances. While the formation of the opposition group Plug the Pipe was seen by many to be a justified response to the lack of a government consultation processes, its subsequent activities set in train some further injustices which rippled out into the community.

Although Plug the Pipe received a good deal of support in the Yea and Shepparton communities, there were also people who disagreed strongly with their tactics and believed Plug the Pipe was responsible for exacerbating the situation and causing fractured relationships and divisions within the community. One interviewee in Yea described how he had been "publicly slandered" at a Plug the Pipe meeting and he felt he was often "attacked" for his opinions. He thought that Plug the Pipe had "intimidated and bullied people in the community who are trying to do the positive things". On the other hand he thought that Plug the Pipe had been "incorrectly and unfairly branded" as too political and that "there are all sorts of little injustices throughout the whole thing". This interviewee criticised Plug the Pipe for taking an "emotive" stance and for not engaging the government with some alternative "rational positions" regarding the pipeline. Another retired irrigator living in Yea who was largely against the pipeline would not support Plug the Pipe because she felt that their focus was too much on the local impact of the pipeline construction and not enough on the broader environmental issues of taking the water, which is what she perceived to be the main injustice of the combined project.

The ripples of injustice extended to pipeline construction workers arriving in Yea to start work. A Yea business owner said that he had heard there was "talk about a backlash against business that deals with the pipeline" resulting in some shops or businesses refusing to serve pipeline workers. These businesses were concerned that they would lose their local customers if

they were seen to do business with the pipeline workers. Along similar lines in the Shepparton community, one dairy farmer in favour of the Food Bowl Modernisation Project and pipeline, and who was an original member of Food Bowl Unlimited, said that he had withdrawn his custom from businesses that actively supported Plug the Pipe. However, in the Shepparton community it was Food Bowl Unlimited which was seen to be a source of local injustice. As one irrigator described it, a small unelected group of businessmen had taken it upon themselves to do a deal with the state government without seeking the opinion of the local community first. An irrigator who opposed the pipeline suggested that Food Bowl Unlimited had instigated the deal to benefit themselves, not the community. She thought that the injustice was the fact that there was no consultation by the government with the larger community: the government only dealt with "this handful of people… who see themselves as the intelligentsia of the region, they believe they know better and seem to have a perception that the rest of the community are uneducated rednecks, and that aggravates me enormously". She elaborated, "that has been the greatest injustice of all. The fact that this idea that will affect everyone has become concreted into policy, based on a few individuals". However, an orchardist pointed out that members of Food Bowl Unlimited and their families had also suffered. As support for Plug the Pipe had grown in the Shepparton area there was a noticeable decrease in support for Food Bowl Unlimited. One social effect was that "those that do support [Food Bowl Unlimited] have found that their children are not spoken to at school and that neighbours won't wave to them".

7.2.3   Round three perspectives: yes, some injustice

Many interviewees in the third round of interviews offered their perspective on events that had occurred within the case studies. These included explanations of what they thought had happened as well as judgements as to whether they thought injustice had occurred. Some key perspectives are described here.

One politician thought that people were angry in the NSW carry-over water conflict because they saw the responsible government agency as being either "lazy or inefficient" and that "particularly on the land people want to have confidence in their decision-makers, they want to know that they have integrity and ability and they are working hard for them". Her explanation for the government action was "they took a risk because no one knew that it was not going to rain". A federal agency interviewee involved in natural resource management thought that the NSW government agency had "stuffed up on their calculations" which was "an information issue". Irrespective of how it had happened, an interviewee from a government agency in Victoria suggested that the NSW government was *wrong* to take back the water in the way that it did: "I thought the clawing back of water was a shocker—it should never happen". He suggested that the water should have been purchased back through the market mechanism which would have "been consistent with the management regime in the National Water Initiative and how we are all trying to operate".

Offering a different perspective on the NSW carry-over water issue, a NSW government agency interviewee said that he thought NSW irrigators lacked a thorough understanding of carry-over water and how it is delivered. He explained that carry-over water had always been specified as a product that could only be supplied if there was enough water to deliver it. In 2006 there was not enough water to deliver it, due to the low rainfall, which is why the cutbacks had to be made. As regards the outcome, he distinguished between irrigators who had purchased water and irrigators who had carried over water. He thought that there *was* an injustice to those who had *purchased* water, but not to those who had carried over water. He explained that the NSW department had not been able to administratively separate out carry-over water from purchased water, which is why the cutbacks were applied to both groups.

Interviewee perspectives on the Victoria pipeline study offered a variety of views on the deal and the way it was introduced. A Victorian irrigation company interviewee, who was also an irrigator, said that in his view the trade-off deal to give 75 Gigalitres of water to Melbourne in return for the investment in the irrigation infrastructure upgrade was a good deal, but "it was not done fairly". He would have preferred to see a consultative approach from the grass roots level. He thought that people resented the way the deal was done, but that many agreed that the irrigation infrastructure need was real. In his opinion there was a "huge group in the middle that don't want to be caught up in the debate because it does get ugly" and that many people were still "weighing up the deal and seeing it unfold before them". His explanation for the lack of consultation was that "the heads of government, the bureaucrats said, this is a good idea, we need to get on with this, we don't have time for mucking around" when the deal was proposed by Food Bowl Unlimited.

A government agency interviewee from Victoria suggested that the main opposition to the pipeline had become an "emotional state, driven out of a moral position rather than a technical position". He suggested that the opposition was basically that a group of people did not like sending water to Melbourne and were using a range of technical arguments, such as the water savings, to support their position. He thought it came down to resistance based on "rapid adjustment" in irrigated agriculture including, for example, the introduction of markets and the entry of managed investment schemes into the picture. In his opinion many in the irrigation industry had been under pressure from these changes and wanted to maintain "romantic notions of the past". This squeeze on agriculture was happening independent of the pipeline, but the pipeline had itself become a conduit through which these emotions could be vented. This interviewee said that with respect to "procedural fairness" within the decision-making process: "the government basically made the decision because they couldn't afford not to. Because the risk may not have been that high, but the consequences were shocking". He thought that a full consultation process would not have reduced the opposition significantly: "with the pipe you would get nowhere".

Two interviewees talked about what they saw as the more pressing concern of the environment in the bigger picture. A NSW government agency interviewee said that he thought there was nothing wrong in principle with transferring water out of agricultural use to urban use. However, he thought that taking 75 Gigalitres from the Murray–Darling Basin was an "ad hoc fix up" that should not take place before a "whole-of-basin process" had taken place to accommodate structural adjustments to water allocation in the Murray–Darling Basin. He thought that the "higher level issues" had not been dealt with. These were twofold. The first was that "it is in our own interest to maintain the functionality of a river in a healthy way so that the water is healthy". The second was that environmental assets "have a moral position that we should retain because they are valuable in their own right". In discussing the complexities of the Victoria pipeline study this interviewee proposed that "we have an economic system that is basically not reflecting equity and justice… the environment and the farmer provide a subsidy for our cheap food… I feel it is grossly unjust to expect farmers to get the blame for taking the water out of the river" (Chapter 9).

Although he did not use the term injustice to describe the lack of water for the environment, a second interviewee from a NSW government agency suggested that the environment was a significant stakeholder "whose voice has not been heard". In NSW water was being returned to the environment through water buy-backs in the water market. This interviewee was concerned that markets have been "wasteful" with respect to the "world of finite resources" and that letting markets determine where water is used is a "flawed policy" until "the third leg" of environmental sustainability can be built in. As a result the NSW government purchases water in the market "on behalf of the environment to gain some equity for the environment", but the problem "begins with market failure in the first place". That the environment is an important, albeit higher-order issue of justice came through strongly from these two interviewees.

Summary: injustice, harm and understanding

These findings show that not only were there widespread perceptions of injustice throughout the communities in the case studies, but also that there was an acknowledgement of injustice by interviewees in round three who were either observers or who were connected in some way to the decisions. The findings show that injustice can be experienced as a direct material impact or as an indirect impact at a social and personal level. This finding that "harm" as a result of perceived injustice can take place at a social and personal level, as well as at a material level is a major research finding. From the range of perceptions about what was unfair or unjust in the case studies it is also clear that injustice is not only to do with outcomes but also to do with processes and the way that people are treated. Perceptions that governments did not recognize that their actions or decisions can result in direct and indirect harm to communities were widespread amongst those who were concerned about their communities' viability. But also, the findings show that there can be a rippling effect of injustice within communities

themselves which is less likely to be acknowledged, but which does cause fractures and divisions within social groups and further harm to individuals. The inclusion of the environment in people's evaluations of harm and injustice is a further important finding.

This analysis also shows the criticality of *understanding* in how people form their perceptions and views about an event. This came up as a theme in both case studies. In the NSW carry-over water study a lack of understanding on the part of irrigators was used as an explanation for their opposition to the decision, with the implication being that if they had understood the rules around carry-over water then there would have been little dissent in the community. On the other hand, irrigators felt that they had been misled: their *understanding* of the nature of carry-over water was at odds with the government agency's understanding of it. Interestingly, in the Victoria pipeline study, a government agency interviewee put forward his *own* understanding of what he thought the protest was about but also acknowledged that he did not fully understand the sustained protest around the pipeline. His reaction was to dismiss a consultation process believing that it would have little effect because of the strength of the opposition. These examples show that a common basis of understanding is important, because in the absence of a clear understanding, opposition to a decision is likely to arise and persist. Thus it emerges here that a common basis of understanding is an essential prerequisite for the *acceptance* of decisions.

These findings—in which perceptions of injustice and harm have emerged as explanations for why people oppose and will protest against decisions made by governments—provide support for *injustice* as a distinct line of enquiry (Wolgast, 1987; Shklar, 1990; Simon, 1995). Injustice—not justice—was the issue in these conflicts. Implications from the findings which show this emergence of injustice are discussed in Chapter 10. This analysis now moves forward to consider people's motivations for seeking justice from a state of perceived injustice.

7.3   *Motives for seeking justice*

There are many reasons why people engage in issues of justice (Chapter 2). These findings have shown that stakeholders can have multiple reasons for engagement in matters of justice, which can vary according to their material, social and personal interests. From the interview data it is possible to draw out categories and indicate the types of action suggested by interviewees which could address these injustices. Although questions about people's motivations for justice were not asked directly, the data analysis shows that interviewees offered many insights as to what should be done and why they were seeking justice. In this analysis data from the NSW carry-over water study is presented in a theoretical categorisation (Table 7.7) to show three areas: perceptions of an issue and the associated injustice; how that injustice could be restored and possible underlying motives for justice. Table 7.7 shows these three categorisations for three social groupings: irrigators, the general community and individuals in the community with differing perspectives. The NSW carry-over water conflict has been chosen to show how the underlying motive for justice can be understood for two main reasons. First because it is a simpler conflict to understand than the Victoria pipeline conflict, and, second because to external observers it has been seen as a simple case of material self-interest, being centred on water, an asset which is taken away by a government decision. These findings show that to the contrary, multiple motives can be identified. These suggestions for people's possible underlying motives for justice draw on concepts presented in Chapter 2, but also express other motivations directly presented by interviewees.

Table 7.7 represents a preliminary categorisation based on emerging themes from the NSW study: the aim here is to show that for each area of perceived injustice there are several possible measures to restore justice and several possible underlying motives for justice. While there are likely to be different perceptions held by different irrigators, with multiple connections between the type of perceived injustice, the measure to restore justice and the motive for justice, this categorisation shows that multiple motives do exist. For example, the perceived injustice of the water cutback being a violation of a property right and the proposal that this injustice could be put right by compensation of a dollar per Megalitre could have several underlying motives for justice. To an irrigator these could include one or all of the following: self-interest to gain maximum benefit; protection of livelihood (in some cases this could be vital to the survival of the farm), and justice to remedy a perceived wrong. To a member of the community who was not an irrigator, this same action of compensatory payment could also include underlying motives for justice such as mutual advantage for the community, protection of livelihood (for example, a farm equipment supply business) as well as justice to remedy the perceived wrong. To a community leader an additional motive for justice could be that the compensation payment

shows that the government values the contribution irrigation communities make to society, thus providing confidence in the structural stability of irrigation communities.

Table 7.7 Community injustice framework: emerging themes from the NSW study

Community perceptions of the issues and associated injustice	Proposed measures to restore justice	Possible underlying motives for justice
By irrigators: • Carry-over cutbacks as a violation of a property right • Lack of recognition of entitlement • Burden of cutback inequitably distributed • Inequitable Extraordinary Assistance Package • Lack of accountability • Disrespectful treatment	• Equitable compensation on a basis of a dollar per Megalitre of water removed • Inclusion in decision-making process • Transparency and accountability by government on "rules" for water allocation	• Protection of livelihood • Self-interest • Mutual advantage • Justice as an end in itself • Justice as a remedy for injustice • Justice as structural stability • Irrigators to be valued as producers of food
By the general community: • Lack of recognition of impact • Lack of consultation • Lack of respect for local knowledge • Lack of recognition for contribution to society as an agricultural community	• Recognition of social impact • Consultation that respects local knowledge and local perspectives • Government agencies to recognize value of agricultural production	• Protection of interests of community: mutual advantage • Justice as an end in itself: to do the right thing • For their world to be just: structural stability and confidence in the future • Community to be valued for contribution to society
By individuals in the community with differing perspectives: • Delusion held by irrigation community that they had a "right" to the carry-over water • Irrigators were unjust to blame the government for the lack of water • Delusion held by irrigators of the viability of the irrigation industry	• Government should clarify rules on carry-over water entitlements and property rights • Initiatives to address the large-scale problem of over-allocation • Irrigators should not blame the government for lack of rain	• Belief-in-a-Just-World: derogation of irrigator victims because they do not understand how water is allocated and should have been aware of the below-average rainfall • Justice as an end in itself to deal with issues on a larger scale including over-allocation of water and environmental degradation

However, Table 7.7 also shows that different stakeholder perspectives about the conflict may have a different set of underlying motivations for justice. For example, there was some derogation of irrigators because of their lack of knowledge about water allocation and lack of foresight about carry-over water in the current dry conditions: these could be manifestations of

the justice motive Belief- in-a-Just-World (Chapter 2), which holds the notion that victims get what they deserve.

However, the differing perceptions, restorative actions and motives for justice are likely to be mixed within these categories in the same way that individuals can have multiple ideas about fairness and justice and perceptions of injustice. This categorisation is a preliminary attempt at finding the deeper meaning within people's motives for justice and understanding why people become engaged in issues of justice. Such a categorisation is useful in developing an understanding of community perceptions of injustice in situations of social conflict. For example, a key finding from this categorisation is that there are many possible motives for justice and that a concern for material self-interest is only one of several.

In the next chapter the analysis turns to how perceptions of justice and fairness in a social context contribute to the acceptance of outcomes.

Chapter 8:   A sense of justice - processes and outcomes

Dairy, Tocumwal, NSW, February 2008
(Photo: Catherine Gross)

The previous chapter was focused on how people interpret and react to fairness, or the lack of fairness, in environmental decision-making. The entry point to the research—understanding how people conceptualise the terms fairness and justice—gave insights into how people distinguish between fairness and justice. From this abstract and detached entry point the empirical investigation went on to consider concrete issues within the case studies and how interviewees reacted to perceived unfairness or injustice. Injustice emerged as a key result. The separability between justice and injustice—that one is not the opposite of the other— suggests that there is a continuum of fairness, justice and injustice with each having its own identity and characteristics, but with many overlapping and common areas between fairness and justice.

Up to this point the analysis has looked specifically at individual perceptions of fairness and justice. The analysis now considers justice and fairness within the broader perspectives of both process and outcome in decision-making, although still drawing from individual perceptions. Also, from this point on, the thread of *injustice* will be incorporated into the emerging justice picture. The discussion now moves into a consideration of the three major constructs of justice (Chapter 2): interactional justice, procedural justice and distributive justice. As outlined in Chapter 1, a second research aim, more specific than the first, is to find out how people perceive fairness and justice within the social context of a decision-making process and how these perceptions contribute to their acceptance of an outcome. That procedural justice can lead to greater acceptance of outcomes is already well established by researchers in social psychology (Tyler and Blader, 2000; Syme and Nancarrow, 2005). But while there have been many proposals as to the effectiveness of procedural justice, this is still an area that lacks clarity and could benefit from further research (Greenberg, 2001b and see Chapter 2). Bearing this lack of clarity in mind, the central and broad aim of this thesis—exploring people's perceptions of fairness within a social context—naturally lends itself to exploring *anew* all facets of justice within that context. The discussion of the findings in this section therefore adopts an open-minded approach in exploring the empirical data and relating these to current theories. While mindful of prior justice research findings, this thesis does not seek as a *primary* objective to verify, elaborate on or disprove any particular justice theory or cluster of theories. Rather, it seeks to explore the data afresh, but still from the vantage point of these well established justice constructs and theories, recognizing that there may be further interconnections, hybrids, cross relationships and different associations that can shed new light on complex social problems. This is putting Layder's (1998) adaptive theory into practice with an iterative cycling between the empirical research data and theories and knowledge from other research areas and disciplines.

In this chapter I use the three justice constructs, interactional justice, procedural justice and distributive justice, as a way of organising the analysis. These three constructs can be envisioned as a set of three lenses, each targeted on different themes within the data that can

highlight these areas, allowing insights to be gathered and reflected back out through the lenses into the conceptual analysis. General implications can then be drawn from these insights.

8.1   *Interactional justice and justice judgements*

Interactional justice is concerned with the fairness of treatment that people receive during a process (Chapter 2). This includes, for example, whether people are treated with politeness, respect, dignity and honesty (Colquitt *et al.*, 2001; Byrne and Miller, 2009). In this section the empirical data is explored through the lens of interactional justice. There are two broad aims: first, to gain an understanding of the importance that people attach to issues of interactional justice, and second to see how this fits in to people's overall evaluation of fairness and justice within a social conflict.

Although the case study interviews were organised around semi-structured questions, I found that people talked about how they were treated in many parts of the interview. In addition, direct probing questions about respect and treatment were asked (Chapter 3). In the NSW study the question was: do you feel you have been treated with respect? In the Victoria study the question was: how do you feel you have been treated? This was so that interviewees were not restricted by these questions to discussing *interpersonal* treatment in the strict sense of the word, such as being treated politely in a meeting. The following three examples illustrate this point. A business professional in the NSW study was ambivalent and thoughtful about the question, commenting:

> I don't think we've been treated disrespectfully, well, we haven't been paid due respect, that's semantics but, I find this more and more frustrating… you find it increasingly obvious that you don't get listened to, that a bigger agenda is taking place.

This interviewee at first interpreted the word respect in the formal sense—being concerned with direct interpersonal relations—but then elaborated further about respectful treatment in the bigger picture. Only one person in the NSW study, a business community leader, said that he thought he had been treated with respect, again treating this in the formal sense of interpersonal relations, but then went on to complain about his correspondence going unanswered: "I suppose because there is no communication, or very little, then how can you tell?" He was interpreting this question about respect in the strictest sense of the word. By contrast he evaluated the overall management of the issue as "totally unfair" because:

> firstly they should have disclosed what caused the anomaly [regarding the water shortage] and secondly they should have compensated the people who owned that water at market rates without any question whatsoever.

A third interviewee in the NSW study responded to the question, have you been treated with respect:

> no, to be honest... to say I am just going to take that [water] and you are on your own is just disrespectful. It could have been done in a respectful manner if they had said we will help you out, as opposed to 'it's been cut' and then walking away, turning your back. Yes I'm including myself as part of the community as a whole, because to disrespect the farmers in that regard is to disrespect all of us.

This interviewee was not only referring to politeness between individuals: she was including the outcome in her evaluation. These three examples show that interviewees were including other aspects of the process and outcome in their evaluation of whether they had been treated with respect. These included being listened to, being given information and being compensated as part of the outcome. In other words, they included respect in an *overall evaluation of treatment,* which was not limited to interpersonal relations. This evaluation included matters of process and outcome. The interview question to probe for interactional justice was broadened in the Victoria study, and similar findings emerged there. These were that interviewees included aspects of the process and outcome in their evaluations of how they had been treated. So questions about respect and treatment were responded to in ways that included aspects of process and outcome. People's evaluations blurred the lines between interactional justice, procedural justice and distributive justice.

These evaluations revealed that dissatisfaction with the way communities and individuals had been treated was a common theme in both case studies. The way people were treated was perceived to be extremely important. As described in Chapters 5 and 6, many interviewees were extremely critical of the state governments and government agencies of NSW and Victoria for the way they had treated people and communities affected by the decisions.   In the NSW carry-over water study, some interviewees commented on specific treatment issues, such as those experienced within the carry-over water issue, whereas others commented more generally about how they felt the community was treated overall. These included perspectives that the government had not been "up-front", that the community had been treated as though it did not exist, that it treated people as "second-class citizens", that there was no explanation for the decision, that the government did not have "the integrity to stand up in front of us and say look we didn't handle this particularly well".   One irrigator, nearing retirement, said, with emotion, that he never felt he was treated with respect:

> we are the wreckers of the environment, the guzzlers of water, we are never seen as producers of food, no, we are not treated with respect at all. We weren't informed and we were told downright lies and that's not fair.

In the Victoria pipeline study, interviewees characterised the government variously as: lacking honesty, being deceitful, treating people with contempt and misleading people. As in the NSW study, many interviewees commented in general that the government did not value people or communities, and was more concerned with its own self-interest than the welfare of voters, and that an "erosion of democracy" had occurred with the way people were treated over the pipeline. There were marked differences in intensity of feelings about how people had been treated. Some interviewees merely commented on how they perceived the treatment, whereas others took it very personally, to the point of changing an aspect of their work or community involvement. For example, three interviewees in the Victoria study altered their future plans regarding their positions in employment or on local government councils because they were so dissatisfied by the way they had been treated. To illustrate how deeply the impact of perceived poor treatment could be felt, and the emotional distress it caused, the experience of one interviewee is given here. This interviewee was a businessman and a member of a local council in the Shepparton region that was the authority responsible for development application approvals in the area. The interviewee did not stand to gain or lose materially from the combined pipeline and infrastructure upgrade project. He recounted how he had been so deeply affected personally by the way the government had treated his local council and himself, that he had become stressed to the point of a breakdown, and was resigning his position. He explained that he, with other council members, had been lied to by a senior government official in a meeting prior to the announcement of the deal. He continued: "as a conservative I intrinsically believe that the government is working in your best interests. My faith has been totally shattered. I am finding it hard as a human being to cope with that". Another local councillor in the Yea region said that she also could no longer continue to maintain her position on the council because of the way her council had been treated: "we have been totally ignored".

Several interviewees in the Victoria pipeline study said that they would have preferred the government to be honest about their plans, rather than implying that they had not made a decision and were seeking community views prior to making a decision. According to a Victorian irrigator interviewee: "He [Premier Brumby] did not road-test it: he road-tested it with people who said what he wanted to hear and he is rejecting all viable alternatives that have been put up". This interviewee suggested that he would have preferred the government to be more honest and direct about taking water:

> Had they said to me I am going to take 150 Gigalitres off you, we are going
> to spend a billion dollars, let's go out and effectively fix your system, I could
> possibly have accepted that. But because he dressed it up in this charade of
> everyone is a winner, we just felt cheated.

Another interviewee in the Yea district, a long-time government employee who had worked with landholders for many years, was quite emphatic about why people were objecting to the pipeline:

> What their objection is, is the way it has been handled, which fits into the injustice. It's the way it's been handled and the methods used. No conversation, consultation or involvement. That is what has got their bristles up… it is not the physical pipeline... effectively they have just been walked over.

Two findings emerge from this section, from which several implications can be drawn. The first has two related parts. First, people attach great importance to the treatment they receive from authorities when a process is introduced. Second, how people perceive that they are treated can have a serious impact on their personal well-being. Perceptions of poor treatment can be felt deeply and tap into a person's value system. Serious harm to a person's well-being, such as emotional distress, can result from perceived interactional injustice. The implication from this research is that interactional justice is an *important component* of the overall sense of justice perceived by people within a decision-making process, but also is important in the *evaluation* of an overall justice experience. There are two key reasons that interactional justice is important. The first is that, as this research has shown, a lack of interactional justice becomes a perceived injustice to those affected by the process or decision. Interactional *in*justice can directly result in social and personal harm. A second reason that interactional justice is important is that it is a first step in a decision-making process or announcement. Identifying those people who have an interest in an area and setting up a communication with them indicates that they do have a legitimate and recognized interest and should be included in communications about that interest. As Lind (2001b: 224) suggests, this indicates that they have "standing". Therefore, as discussed earlier in relation to injustice having priority over justice (one comes before the other), interactional justice also has priority over procedural justice, or the rest of the process. These findings, which have identified some consequences of interactional *injustice*, provide empirical support for the three-factor model of justice: that interactional justice is distinguishable from procedural justice and joins procedural justice and distributive justice as a third separate construct (Bies, 2005).

The second finding here is that the distinction between the elements of interactional justice and those elements of procedural justice and distributive justice is not sharp and clear from the perspective of the people involved: in their evaluations they were concerned with an *overall* evaluation of justice. These evaluations blended such areas as how they were treated, how they were affected by the outcome and whether they had received an explanation or not. This was an intermingling of the elements of interactional justice, distributive justice and procedural justice. The implication from this key finding is that this research supports the notion that people respond to a general experience of justice or injustice, or overall justice, rather than focusing on specific aspects of justice in how they form their evaluation (Törnblom and Vermunt, 1999; Lind, 2001b; Shapiro, 2001; Ambrose and Schminke, 2009). A further implication is that while distinguishing between these three constructs may be important in a *proactive* sense, for example in setting up a natural resource management decision-making process, this distinction

may be less important in understanding *reactions* within an existing or past process (Greenberg, 1987; Colquitt *et al.*, 2001) (Chapter 10).

A further implication can be drawn from this research which relates to the three justice constructs and the second research aim: how people's perceptions of justice contribute to their acceptance of an outcome. This research supports the notion that interactional justice is important in its own right and therefore merits recognition as a separate justice construct. In this research both the case studies are similar in that a decision was made without a recognized consultation process (procedural justice) taking place. Further, in both case studies there was a perceived lack of interactional justice. As indicated, the rationale for the lack of a consultation process was that the decisions needed to be made urgently, with the implication that there was not enough time for a consultation process. However, there was no rationale provided for the lack of interactional justice. As suggested by interviewees, it would have been preferable for government agencies to take a more direct and honest approach, which could have improved interpersonal relations and could have had a direct influence on the *acceptance* of the proposal. So the implication here is that if a decision has to be made, for example in a critically urgent situation, in the absence of a consultation process, then interactional justice becomes a vital dimension to the overall justice experience of those affected by the decision and influences people's responses. This is important for three reasons. The first reason is to avoid perceived injustice by recognizing that there are people affected by the decision and that they have a legitimate right to be recognized as having an interest in the process and outcome and to be provided with an explanation or rationale for the decision. The second reason is that an approach which includes communication and honesty is more likely to lead to the acceptance of a proposal, whereas an approach which is perceived to be lacking honesty and poorly handled can lead to opposition to the proposal. A third reason is that bystanders, or people who are neutral and people outside those communities, who are not affected by the decision can see that decision-makers are treating those affected with respect. While there still may be some core opposition to the decision within the community, for example by people severely affected by the decision or with a moral objection to it, there is likely to be less support for their position from the broader community if those affected have been treated with respect.

8.2   *Procedural justice and a sense of injustice*

Following on from the previous section, the first point is that people responded to questions about treatment with an overall evaluation or judgement of justice which included aspects of interactional, procedural and distributive justice. The second is that the way people are *treated* within a process *does* have an influence on their acceptance of an outcome decision. An earlier finding from Chapter 7 is also relevant here: perceptions of injustice can invoke different motivations for seeking justice within a decision-making process. In this section the

lens of justice switches from interactional justice to procedural justice, which is concerned with the fairness of processes in which decisions or outcomes are made. As reviewed in Chapter 2, the principles of procedural justice include such process elements as participation, voice, information, having issues responded to, timeliness and trust in the decision-making authority to make an unbiased decision (Tyler, 2000; Colquitt, 2001). As mentioned at the start of this chapter, researchers have already shown that procedural justice does lead to increased outcome acceptance, although exactly why this is the case is less clear (Greenberg, 2001b). In this section the empirical data is explored with the aim of examining this important question. Even though the analysis in the previous section has shown that people form an *overall* judgement of justice, it is still worthwhile continuing with an exploration of the empirical data through the lens of each of the three constructs, to show which elements within these constructs are important to those involved in the social conflict, and how they contribute to outcome acceptance.

From the case study descriptions in Chapters 5 and 6 and the findings of perceptions of injustice in Chapter 7 it has been shown that stakeholders have quite different areas of concern within a decision-making process. These areas of concern, and the differing degrees of importance attached to them, vary according to the position and circumstances of each stakeholder. The next paragraphs illustrate the way in which different elements of the process were more significant to different stakeholders and how they reacted to perceived deficiencies. These procedural justice elements are italicised in the text to highlight these different areas.

8.2.1   The NSW study: information and consultation

Irrigators in the NSW carry-over water study were concerned about the material loss of water: it was important to know early in the season how much water they would have for the growing season in order to make decisions about planting crops, such as rice, or watering permanent pasture for dairy cattle. Therefore the *timing* of the announcement of the water cutbacks in October was critical: it came as a shock and many irrigators were angry that the government had not given them warning earlier in the season that delivery of carryover water and purchased water was under question. Had such a pre-warning been given farmers could have made alternate plans, such as collaborative arrangements with neighbours, which would have lessened the impact. As one irrigator said:

> Deals could have been done right across the district if the government had
> been upfront. But by leaving it so late with their decision-making process
> the opportunity for that sort of arrangement and ways of working around it
> had been lost… they told nobody and they were still hoping it would rain.
> Or they didn't have the guts to make a political decision.

Irrigators believed that the government should have known how much water was available, and believed that the government was either negligent or "incompetent" in its failure to provide

such an early warning, particularly because the government knew how important the timing was to the irrigators for their planning. In this way *timing* and *notification* were high on irrigators' list of important process events. For those irrigators who had executive responsibilities in organisations such as the Rice Growers Association and Southern Riverina Irrigators (that formed an official voice for irrigators in the area) the main issue at the outset was the complete *lack of consultation* associated with the first water cutback. One interviewee in such a position suggested that the government had "not been truthful" by publicly implying that these organisations had been consulted. The government had also failed to provide any *information* to the irrigators about the rationale behind the cuts and explain why they had chosen to cut both carry-over water and water that was purchased through the water market. This angered many irrigators, as one described it:

> I would like to have had it explained how it came about instead of just being told you can't have your carryover. To put their hand up and say we have made a mistake in how we calculated it… or was it a computer. We were just told the carryover water wasn't there. Well, that's not a good thing at all, it is very poor, it's not fair. If you tell people what the story is then you know what you've done wrong and you can usually get away with it. You don't just try and hide it.

This irrigator implied that people would have been more accepting of the issue if the government had openly admitted a mistake or calculation error. It was clear from these sorts of comments that they believed the government had made a mistake. There was, however, general agreement by those interviewees involved in the second round of water cutbacks that the way these had been handled was much better, even though they were larger than the first cut. This was because of the involvement of the irrigation associations in the decision-making process and because their suggestions about how to make the cuts and who would be impacted were included in the final outcome. One industry association executive described how they had put it to the government: "as stakeholders we need some involvement in this because otherwise you are going to do things and you will not have our support and we need to understand what is going on". This difference in the way the two cutbacks were handled illustrates very well that a decision can be accepted even if "it wasn't a nice outcome" as the same interviewee described it, because there was full involvement of the appropriate stakeholders.

The importance of *background information* in the NSW carry-over water study was also a key underlying concern which went to the heart of the dispute. Many irrigators believed that the carry-over water was physical water—"water in the dam"—that was the equivalent of a real property right. According to an irrigation association executive the irrigation community had been told "at countless meetings" that this water was a higher security even than the traditional high security water in NSW. This is what formed their belief about carry-over water and fuelled their perception that their property rights had not been recognized when carry-over water was cut but not high security water. However this belief was not supported by explicit information

provided by the government: this information deficiency was acknowledged by interviewees in the NSW carry-over water study and an interviewee from round three. This lack of specific information resulted in two different perspectives: some felt that irrigators had a poor understanding of carry-over water and should have known that carry-over water was only available if minimum inflows took place. The opposing perspective was that irrigators felt they were misled by the government when carry-over water was introduced as a risk management tool. All interviewees who commented on this acknowledged that the information needed to be updated to clarify these perceptions of poor understandings or misunderstandings. However, at the time of the water cutbacks the beliefs that irrigator's property had been removed and that their rights had been violated formed a substantial part of their justice evaluations. As a result they demanded compensation for each megalitre of water that had been taken as a way of putting right the injustice that had been done and reducing the material impact. This shows that *information in general* is a critical part of a decision-making process: it is not only information that is required to explain the actual decision, but also information that forms the basis of people's knowledge, understanding of a situation, and subsequent expectations in further interactions.

As described in Chapter 5, it was not only irrigators in the Deniliquin district who protested at the government action: many people in the general community expressed their support and empathy for the irrigators by attending the December 2006 protest. One business professional, who recounted how his mother told him he had a "strong sense of justice" but he rather thought he had a "strong sense of *in*justice", said that the biggest issue with the process for him was that the *community was not listened to*, either specifically or generally. For him the way the government made their decision, without recognizing property rights, "added to that element of uncertainty" and "de-stabilised the community". He said that "if you want to take something from somebody you firstly must ask" and that he thought "groups that need to be involved don't work collectively or collaboratively, so you get this mishmash of energies and I think that goes to the heart of justice and fairness". This interviewee was commenting not only on the specific issue, but also in general that because the community was not to listened to it was therefore not understood in the bigger context. To try and remedy this he had been involved in the formation of group of leaders, the Drought Leaders Forum, to give voice and leadership to general water issues in the area. Another Deniliquin business owner also suggested that the main concern for her was that the community lacked a *cohesive voice*: "we have been striving to get one voice on water to government because mixed messages achieve nothing". She described her feelings of being personally "demoralised" when bureaucrats "make radical decisions that can impact on you and you can do nothing about it". For both these interviewees their underlying concern was the viability of the local community. To this end governments needed to be better informed about the social impacts of decisions and be prepared to interact with communities during decision-making processes.

In summary, NSW irrigation community stakeholders expressed their dissatisfaction with many elements of the decision-making process culminating in the water cutbacks, but also indicated ways in which these could have been improved to make the outcome more acceptable. Of particular importance was the lack of timely information, lack of explanation for the cutbacks and the lack of involvement or participation of irrigation community leaders. Although the fundamental core problem was a lack of recognition of a property right, the way the irrigation community had been treated "showing a lack of understanding and respect for people and their business of trying to get through this horrible drought" was also a major reason that the protest was held. Their support for the second round of cuts and acceptance of that decision was a direct result of their involvement in that decision-making process. However, this still left the issue of compensation for the water taken to be dealt with (discussed further in Section 8.4). Others in the community, perhaps less directly affected materially, viewed this process as another manifestation of the community not being listened to in the bigger picture of water management. This posed a direct threat to the future viability of the community.

From this summary of the NSW study, the findings in this section about procedural justice start to emerge. The first is that matters of process directly affect people's willingness to accept a decision. The second is that people have ideas about justice, or a sense of justice or injustice that are formed from their lived experience. They can bring this sense of justice or injustice to bear on their evaluations of justice in a particular situation, and it can also form a motivating force behind some of their activities in a community. Such activities include the formation of leadership groups to give voice to community concerns, involvement in protests when their sense of justice has been violated, and activities which contribute to a communities well-being.

8.2.2 The Victoria study: emotions running high and a sense of injustice

The Victoria pipeline study differed from the NSW carry-over water study in that the interviews took place much earlier in the process during which the issue was being experienced: the communities were fighting a decision about the pipeline which they thought could still be overturned. In addition, the Victoria study was more complex because it involved two major projects taking place in two different areas of the state. Stakeholders came from many different backgrounds and from many different communities, with varying degrees of knowledge and concern about the combined project. Yet the Victoria study was also comparable to the NSW study in that stakeholders had similar concerns about aspects of the decision-making process. However, because the process was at a much earlier stage, many interviewees were very much focused on *what* was wrong with the process and proposal and *why* they thought it was wrong. They were angry with the way they had been treated and the way the proposal had been presented and this formed a major part of what they wanted to say in the interview. They were less ready to reflect dispassionately on matters of process in the interview, as had interviewees in the NSW study. In that study much of the process had already run its course so interviewees

were more contemplative about the process and how they had reacted to it.   This difference between the case studies proved useful for the analysis.   In the Victoria study interviewees tended to express their concerns about the *process* more emotionally than in NSW (where people were largely concerned about the impact) and talk about why they were unhappy with it. This gave me insights into their sense of injustice, how this influenced their perceptions of fairness or unfairness and contributed to the formation of their overall justice judgement.

A major complaint from interviewees was that the decision had been announced with what they perceived was *no consultation*. The way the government announced the pipeline was the central issue for a Plug the Pipe interviewee: "the process all the way through has been unfair and unjust in that right from the very start the government told us in the very first meeting that this was a done deal". She became involved, even though she did not stand to lose personally from the pipeline, because "I could not stand by and let this happen… that an elected government can do this… I find that appalling and I cannot sit there and watch". This interviewee talked about several areas in the decision-making process which she thought were "wrong" as well as the central issue of taking the water. Her sense of justice had been violated in many areas—to the extent that she had spent a great deal of her time on the Plug the Pipe campaign. She thought that if the government had considered the project as a whole and followed a "correct process" of environmental evaluation then "it would have quickly become obvious that it wasn't a project that you should proceed with". Other interviewees who were also members of Plug the Pipe also expressed extreme frustration with the government's approach and had also given up substantial amounts of their time to oppose the project. As another leading member of Plug the Pipe said "The public deserves better than this. People should have been presented with something concrete that would stand up to the highest scrutiny".

Every interviewee who was opposed to the pipeline had questions about the combined project that had not received a satisfactory answer. Many complained that there was *no avenue to discuss all the questions raised*, including, for example: alternatives to building the pipeline, alternative routes for the pipeline, when and how water would be taken from the Goulburn River, how the pumps, air valves and scour valves would operate on the pipeline, details of the estimated irrigation savings, who would be impacted in the irrigation district and where, and what would happen if the drought persisted and Lake Eildon remained at low levels.   The fact that these questions were so important and yet remained unanswered was central to many interviewees' overall opposition to the government's proposal and how the government had gone about it. One retired engineer said that his main opposition to the pipeline was the fact that it had been done "without any planning". He recounted a wide range of issues about the pipeline, from the technical specifications through to the route planning process that went against his engineering and planning principles gained through a lifetime's experience in the industry. In his opinion there was not one area which had been carried out well. This *lack of planning* was also raised by three interviewees who were on local councils which had not been consulted prior

to the announcement or as part of the planning process. In their view there was a legitimate expectation that the state government would consult with local government about significant infrastructure projects in their areas. One councillor said, emotionally, "I've been on the council five and a half years and I'm proud—we have consulted widely—and we try to do the right thing. We consult on just about everything, even the skate park. We do make hard decisions, but it is always done with consultation". The state government action went completely against the principles and practice that had been implemented by his local council.

Finally, the *lack of information* issued by the government, either proactively or in response to questions, was widely condemned, even by those who were mildly in favour of the proposal or neutral about it. The lack of debate, the lack of discussion of the rationale or the options available frequently came up in interviews. The complexity of the combined project and the difficulty in getting hold of detailed information was a significant issue for those who were interested in and concerned about the project and wanted to find out more. As one Shepparton interviewee said "you have to sit down and think about it and understand how the system works to understand what is happening". An interviewee in the upper Goulburn River catchment area said that he was not opposed to the pipeline if the savings could be proven. But he had been prevented from getting documents by people in government departments who he felt were told not to release detailed information or reports. In his examination of the data that was available he believed that the figures were flawed and "the people that provided this information knew that it was flawed". As a result he said " the consultation process was a sham… the savings are mythical… it makes you lose confidence in the people who are governing and that is sad".

8.2.3   Summary: a sense of injustice

These findings show that interviewees in the Victoria pipeline study had different experiences of the process depending on how they were involved in it and the degree to which they became engaged in it. In many cases interviewees felt that elements of the process were inadequate from their perspective and violated or went against principles, ways of operating or beliefs that they held to be important. Some were excluded from the consultation process when they felt they should have been included as a stakeholder; some felt that they were ignored or their questions were ignored and therefore they were not valued. Many did not have their specific concerns addressed and were denied information requests.

What individuals and communities in NSW and Victoria had in common was a *sense of injustice* in the way they had been treated and how elements of each decision-making process had failed to meet their needs or expectations. These needs and expectations tapped into some deeper sense of fairness or justice or opinion of what was right or fair under these circumstances. The absence of what were perceived to be essential elements of a decision-making process, such as honesty, transparency, information and opportunities for issues to be responded to, led directly to protests and disagreement with the outcome or decision. These

perceived process deficiencies contributed to people's justice judgements and their unwillingness to accept outcomes while these deficiencies existed.

8.3   *Distributive justice: packages, deals and trade-offs*

Having established in the last section that the elements of a process are critical in how people formulate or re-evaluate their justice judgements, and in their acceptance of outcomes, the thesis now turns to the third justice construct, distributive justice, which is concerned with outcomes. There are three key principles of distributive justice: need, equity and equality (Chapter 2). The empirical data in this section is analysed through the lens of distributive justice with its three components. The key aim here is to explore how people evaluate a decision or outcome, and how their judgements about an outcome influence their reactions to the outcome. These reactions can include suggestions or demands for changes to the outcome and how outcomes can be improved or made more acceptable.

The two case studies are similar in that many stakeholders were sufficiently motivated and engaged in the issue to organise public protests about the proposed or actual outcome. However, there are also some important differences between the two case studies. In the NSW carry-over water study, the water cutbacks (the outcome) had already been made and there was general community support for the irrigators and their demand for compensation. In contrast, in Victoria, although a *decision* had been made, implementation of the combined project was still in its early stages. There was also a variety of reactions to the decision from within the communities affected. Although drought and a shortage of water were common factors in both case studies, the context surrounding each decision was quite different.

8.3.1   The NSW study: the rules keep changing

In analysing how people perceived and evaluated the outcome in the NSW study, four main areas stand out. First, the contextual basis or rules on which carry-over water as a risk management tool was based; second, how the water cutbacks were distributed amongst the irrigated groups; third, irrigators' suggestions for a more acceptable outcome and the government's initial response, and finally the government's Extraordinary Assistance Package.

As described in Chapters 4 and 5, irrigators in the NSW study used carry-over water as a risk management tool which had been introduced for that purpose by the NSW government. Carry-over water could also be purchased by other irrigators. This tool had been developed specifically to be used by individual irrigators to make their own decisions about how they would spread their risk of potential water shortage from one year to the next in periods of drought. That this specific water was cut back just at the time it was most needed was seen as unfair because those farmers who had "done what the government had asked them to do for years" were precisely those worst affected. It was not only ironic: it undermined the whole purpose of carry-over water. This irony and impact was not lost on the rest of the community

and was one of the reasons that the protest was supported by the community at large. Irrigators felt that they had been led to believe that carry-over water was more secure than high security water and would be allocated before high security water. Their expectation that carry-over water was the equivalent of a property right was based on what they had been led to believe were the rules underpinning carry-over water. This belief was fundamental to the sense of injustice felt by irrigators. Irrigators now had the perception that the government had changed the rules mid-stream which had "hit at the heart of the integrity of irrigation… and destroyed all the trust that we built-up" according to one irrigator who had been involved in developing carry-over water as a tool. The outcome of the government action to the irrigation community was that the rules had suddenly changed, the integrity of the irrigation system had been undermined and trust had been lost.

The second area in which the outcome was seen to be unfair was the way in which a small subset of irrigators in NSW was impacted by the water cutbacks. These were the irrigators with purchased water or carry-over water still in their accounts. As described earlier, irrigators used their water at different times of the season depending on the type of crop grown. Some irrigators had already used much of their carry-over or water that they had purchased at the time of the cutbacks whereas others had used very little. These latter irrigators therefore bore the brunt of the water cutbacks.   The perceived unfairness was most keenly felt by those irrigators for two reasons: first they had taken more precaution than others by carrying-over water until the next year and second, because they typically used their water later in the season. They felt that their burden of water cutbacks was greater than others and that the burden was unfairly distributed. Irrigators were also angry that the cutbacks affected those who had general security water more than those who had high security water. That this was an unfair distribution was also pointed out by an irrigation company employee who suggested "what has happened has impacted on people very differently depending on their circumstances and that is what is unfair". This interviewee was well versed in the intricacies of water distribution within the Murray Irrigation District and was critical of the government for not responding sooner in which case "a bigger group of people would have lost a smaller amount of water". Thus the government was criticised for the unfair allocation of water cutbacks particularly given the context of those who received the heaviest burden. Had the government warned the community earlier, and involved irrigation leaders in solving the dilemma, a better outcome could have been achieved in two areas. First because irrigators could have changed their water usage and second because the burden could have been spread across a greater number of irrigators.

The third area in which the outcome was seen to be unfair was the government's initial response to the water cutbacks. Irrigators had called for compensation for the water that had been taken. They thought that the fairest and most equitable way to do this would be for the government to pay a dollar figure per megalitre that had been cut from each water account. This would be consistent with the water trading market that the government had introduced. In

other words it would put the irrigators, as sellers, on equal terms with the government, as a purchaser, using the market mechanism. A precedent had already been set for this suggestion in a prior transaction with Snowy Hydro in a time of water shortage. In this transaction irrigators were able to acquire water from the Snowy Hydro scheme allocation in return for a usage payment, and on the understanding that the water would be returned at a future time. This was referred to as the "Snowy deal". Irrigators thought that a "reverse Snowy deal" was an appropriate response in which the government would purchase water from the irrigators to satisfy the current shortage. Irrigators felt this was a fair response, in part because they felt the government was responsible for a miscalculation of the carry-over water and in part because of their belief that carry-over water was equivalent to a property right. However, the government did not accept this suggestion or responsibility for compensation. The irrigation community perceived this as an unsatisfactory outcome and organised the Deniliquin protest rally.

The government responded with an Extraordinary Assistance Package (Chapter 4), the fourth area of this outcome analysis. The Extraordinary Assistance Package was deemed to be unfair because it was not directly related to the water cutbacks: any irrigator suffering hardship was eligible to apply. This meant that an irrigator who had not lost any water through the cutbacks could receive financial assistance up to a limit of $50,000. Irrigators complained that this was unfair to those who had suffered a significant financial loss through the water cutbacks, and the package should be directly related to the cutbacks. Some irrigators who had suffered significantly from the water cutbacks might not be eligible for the package. Essentially, the government had based the package on a *needs* basis, and not on an *equity* basis, which is what the irrigators would have seen as a fair outcome. Some within the community felt that the package would create further inequities when people compared what they had received. In addition, the package was administratively complex and many interviewees perceived this as unfair because they thought it would be a deterrent to people applying for the package which would therefore minimise the overall payouts.

In summary, the water cutback decision was largely perceived to be unfair for two main reasons. First because the burden of the cutbacks had fallen mainly on a small group of irrigators, and second because the government was perceived to have side-stepped its own rules concerning the allocation priority of the different types of water. The government's response to the irrigators' dissatisfaction with this was an Extraordinary Assistance Package which was perceived to fall far short of providing a fair or just outcome. The community was quite specific that an outcome based on a dollar per megalitre compensation would have been equitable and acceptable. A key finding here is that the irrigation community was very clear about what would be an appropriate measure of justice to restore the perceived injustice: an outcome based on equity, not on need.

8.3.2   The Victoria study: a trade-off of needs

Analysing the outcome in the Victoria study is less straightforward than in the NSW study: at the time of the interviews the outcome was a multifaceted composite still in the early phase of development. It comprised a complicated set of plans, decisions and activities covering two major project areas, and, as has been discussed earlier, community reactions to it were mixed and information about it was scant. The analysis comprises three areas. The first area is the contextual basis which includes past political promises and the current procedures or rules underlying the proposed outcome, the second is the outcome in its incomplete form as a "trade-off" or deal, and the third area is the future possible impacts of the outcome after completion of the projects when the proposed water allocation would be in effect.

Farming and irrigation communities in Victoria had witnessed and experienced considerable change in recent years, such as in the structure of institutional organisations, in water allocation and the makeup of communities themselves (Chapter 4). The background context had been in a state of flux for some time. This is why a reiteration of the original promise made by Henry Bolte in 1964, not to take water over the great dividing range, by the then Premier Bracks was an important declaration to rural voters and significant in underpinning the irrigation community's confidence in water security. The government was perceived to have broken that promise with the introduction of the North South Pipeline. By failing to consult widely with communities about the proposed pipeline and irrigation infrastructure upgrade, the government had also undermined its own institutional practices in water management. This was ironic given its solid reputation in community consultation. By relying on a small group of business leaders in Shepparton to represent the broader community the government had, in effect, inhibited a broad-based debate and had become party to a "trade-off" which did not have widespread support. The combination of the broken promise, lack of consultation and lack of information left the proponents of the combined project open to criticism that the deal did not have a solid base. From the perspective of many in the broader community, the groundwork had not been laid and promises, established procedures and ways of working had been broken or bypassed. Therefore there was little in the way of rationale or explanatory framework for the outcome, which was perceived as a deal constructed primarily for the benefit of the government and Food Bowl Unlimited, to the detriment of the broader communities. Although the pipeline had been presented on a "needs" basis, this was widely thought to be spurious in the absence of a clear rationale.

The second area of analysis of the outcome in the Victoria case study focuses on the nature of the outcome itself. At the time of the interviews in October 2008 the outcome was still a work in progress: it was not yet fully tangible and the resource allocation (water) had not yet been made. Interviewees assessed this work in progress from their particular vantage points with whatever information they had to hand, depending on their level of interest and on what

information they had been able to obtain. Because many were involved in a process, to a greater or lesser degree, it was the process as well as the outcome that was the subject of fairness assessments and these tended to be blended together and confined to an area that the interviewee was familiar with. However, fairness assessments of the outcome in its current shape were made. These were mainly in two areas: the trade-off of water between the irrigation infrastructure upgrade and Melbourne, and the pipeline itself.   First, with respect to the trade-off, a widely held view amongst those opposing the trade-off was that the irrigation infrastructure upgrade should have been funded by the government in the same way that other public facilities, such as roads and hospitals were funded. So it was inequitable that a deal had to be entered into, to give away water in order to secure the funds for the upgrade. Those opposing the trade-off argued that there were already several irrigation infrastructure upgrades taking place, so it was false and misleading to suggest that the only way to get this upgrade was through a trade-off deal. In addition, the calculations for the proposed savings were held to be inaccurate, as was the fact that water could be "saved". The water was not *lost*: it was merely accounted for differently. In summary, there were three key reasons that people were opposed to this trade-off: that the government should fund the upgrade anyway, that upgrades were already taking place, and the perceived erroneous logic behind the proposed savings that justified water to be sent to Melbourne.

In contrast, those in the community who believed the trade-off was reasonable under the circumstances, including members of the Food Bowl Steering Committee, firmly believed that the savings were real and could be achieved. On this basis the trade-off was justifiable and worthwhile: the outcome should be acceptable because the irrigation community stood to gain $1 billion worth of irrigation infrastructure upgrades at a cost of 75 Gigalitres of water leaving the river system. They believed that because this water was "saved water" there was no actual loss of water to the irrigators, and therefore the trade-off represented a good deal to the irrigators. From this analysis so far it can be seen that the "saved water" was a critical element of the deal or outcome at that point in the process. The proposed water savings had been used to justify the trade-off and to convince the government to go ahead with the deal. But at that point in the process the water savings took the form of calculations and plans. In other words, the savings were not yet tangible: they consisted of data and projections which in reality amounted to information.

Thus information was a major component of the proposed outcome. From a justice analysis this is a critical distinction, because justice studies generally hold information to be part of the process, not of the outcome. The implication here is that as an outcome is being developed, as in this case study, important components such as information and a rationale could be considered both part of the outcome and part of the process. For example, in this case study interviewees on both sides of the issue concurred that detailed information about the trade-off, including the proposed water savings, was not made generally available for the

community to discuss at the proposal stage (process) or when the decision had been made (outcome). Interestingly, this point was made very strongly during one interview. As described in Chapter 3, interviews were frequently conducted in people's homes. During an interview with one of the irrigators who had taken a leading role in developing the proposal, the interviewee's wife interrupted the conversation, as she was offering a cup of tea, to say to her husband:

> you could have done things differently but at the time you didn't want to push them… when you were talking to [a neighbour] the other night she wanted to understand it, but she had not been given the facts. Those facts had never been given to the community as you gave to her. Like the alternatives to the food modernisation scheme. I think that is where the big mistake was made.

The interviewee, however, brushed over this point and talked about the public meetings that had been held across northern Victoria to explain the proposal. Providing detailed factual information was not, apparently, seen as a significant concern to the government or to the Food Bowl Steering Committee. But to those opposed to the pipeline, a debate based on factual evidence would have shown up the pipeline as a "flawed idea", thereby removing any public support and possibly resulting in abandonment of the project. These findings show that a rationale and detailed information are critical components of both the process and the outcome.

The lack of information about compensation for landholders in the Yea community landholders was also a source of concern. Those affected by the pipeline had not been provided with details about compensation for the use of their land: while this could be seen as part of the ongoing process, they were still concerned about two outcomes: how the pipeline would affect their land and how they would be compensated. Similarly, in the irrigation district, irrigators were generally unaware of exactly how the modernisation project would affect their own operation. It was known that that the irrigation backbone would be substantially reduced and that this would have a considerable impact across the irrigation district. However, the project had not reached the stage where individual discussions had taken place.

Turning now to the third part of the analysis, the future implications of the water redistribution: this was the most contested area of the three. For the government and irrigators in support of the project the trade-off was fair because the government funding was thought to be very generous, and the government could have taken an easier option of building the pipeline and purchasing the water in the water market, which would have been significantly cheaper. Thus the government believed that it was contributing substantially to the water security of the irrigation area, which was clearly needed. The trade-off outcome therefore would satisfy two needs: water security for Melbourne and water security for the irrigation district. While irrigators and other community members universally supported the needs-basis for the irrigation modernisation, they did not support the needs-basis rationale for sending water to Melbourne.

Thus the distribution rationale of *need* on which the whole project was based was heavily disputed. First, Melbourne had other options and second, the river system had no other options and stood to lose 75 Gigalitres of water per year. The notion put forward by the government that this was justifiable because it was "saved water" was largely seen as a "con". One interviewee put it: "Melbourne is going to take its water right or wrong whether the savings are there or not".

The loss of water to the environment and a river system well known to be over-allocated and under stress from a prolonged drought was central to the broad based opposition to the pipeline. This was a river system in *need*. To take water under these circumstances was seen by some to be not only morally wrong but also to be impractical because of the lack of actual water. Many pointed out that there was not currently enough water in Lake Eildon to send down the pipeline. A government response was to take water from an environmental reserve held in Lake Eildon in 2010, as an interim measure, until the water savings were available. But this was seen to be still a net loss to the river system. This was also a net loss to the irrigators because that water would have to be "made-up" in the next rainfall period which would mean irrigators would get less until the reserve had been restored. Proponents of the pipeline suggested that people generally did not understand that the savings would mean there would be extra water held in Lake Eildon. People opposing the project criticised the government for not being transparent and clear with the scenarios of how the water would actually be distributed under different rainfall conditions. This put future water security for the environment and the irrigators in doubt. With a river system that was already over-allocated, and was already delivering water to the town of Bendigo, the pipeline to Melbourne would put another new demand on an already overstressed system. As one irrigator pointed out, in practical terms the pipeline would divert the majority of the water that was actually flowing down the Goulburn river (200 megalitres per day), but the impact downstream of the loss of this water had not been assessed so "of course it is not fair… it is blatant abuse of process".

Fears for the future were at the heart of community concerns: once the pipeline was built then the risk of additional water being purchased by urban water authorities and industry could become reality. In terms of equity this created a problem for the irrigators, because they could not afford to compete for water on the same terms. Central to irrigator concerns were their own positions as regards their investments in their irrigation infrastructure on their properties, as well as their expectation for water to continue to be delivered under the current irrigation system arrangements. As one irrigator pointed out, they had consistently invested in upgrades on their property and their equity in their property represented a lifetime's work and in some cases their superannuation. To have the future put in doubt first through water trading and second through the pipeline was seen to be unjust to those who had based their livelihoods and future security on a community-based irrigation system that had worked well until these—in their view unjustified—recent changes.

In summary, the unfolding outcome in the Victoria study consisted of a deeply complex and contextually-based tangle of issues in which the proponents had failed to present the big picture. There were strong convictions and deep divisions about the proposed distribution of water which was seen as fair by some and unfair by others. To those who saw it as fair this was an outcome based on needs and necessity brought on by drought. To those who saw it as unfair this was an outcome based on a dubious rationale which did not satisfy the needs of the environment or recognize irrigators equity in the irrigation system. To this latter group and many in the broader community a needs-based outcome did *not* justify the abandonment of impact assessment within a consultation process and did *not* trump an alternative outcome which could have been the result of a fair decision-making process.

8.3.3 Summary: towards better and fairer outcomes

Some common themes emerge from this outcomes analysis. First, people do make fairness assessments or justice judgements about outcomes which can be distilled down to the three distributive justice principles of need, equity and equality. In making these assessments people draw on a range of experiences, values, beliefs, judgements and factual analyses. As has been shown in these case studies, there are similarities in the way people formulate their assessments, drawing on common values, shared lived and community experiences and shared expectations for the future. These similarities result in the formation of groups working towards proposals or groups in combined opposition. Where strong convictions are held then divisions occur which can result in divided communities. Second, these findings show that if an injustice is perceived to have taken place then people have very clear ideas on what an appropriate response should be under those circumstances. For example, in the NSW study a needs-based outcome was not an acceptable response to a perceived equity-based injustice. Third, findings from the Victoria study showed that if a needs-based decision has been made which has a negative impact on a community, then a factual basis and clear rationale is required before the outcome can be considered acceptable. In other words, the rationale needs to be part of the outcome. Also in this area, the findings show that needs-based outcomes can be hotly contested as to their validity and this highlights the importance of sound information being available to support the proposal. Areas that are contested are not restricted to facts. Morals and what people consider right or wrong under the circumstances are also areas of disagreement, for example the needs of the environment, or stakeholders current and future positions of equity. These findings show why decision-making processes are important in gaining the acceptance of decisions and why elements of processes are important in achieving better decisions and outcomes that can be perceived as fair.

Chapter 9: Muddying the waters - worldviews, institutions and change

Upgraded irrigation infrastructure, Victoria, October 2008

(Photos: Catherine Gross)

In the previous two chapters the thesis focused on analysing the empirical data through the lens of justice: questions of justice were centre stage. At the start of the analysis in Chapter 7, perceptions of fairness and justice were explored primarily at the individual level, and in Chapter 8 the analysis examined issues of interactional, procedural and distributive justice through the processes and outcomes within the case studies. At this point the thesis has largely accomplished three research aims (Chapter 1): to find out how people interpret and react to fairness and justice, to investigate how justice and fairness perceptions contribute to outcome acceptance, and to explore how better outcomes can be achieved. These aims have been achieved through the use of a justice based research approach (Chapter 3) which has also delivered considerable insights into the bigger picture of resource allocation and problems underlying social conflicts around scarce resources. In this chapter the thesis now brings societal themes and tensions that emerged from the empirical data into the central focus. The findings themselves, up until this point, have also been discussed primarily in specific justice terms. Now, however, in this chapter the focus of the thesis can move on from this detailed justice and fairness analysis within the case study context to the broader subject matter of all three studies: water management, particularly as it relates to irrigation, as a subset of larger natural resource management issues. At this analytical level a general fairness and justice focus can be brought to bear on some of the thorny issues and societal tensions which emerged from the empirical data.

For example, a consistent and underlying societal tension of concern to many interviewees is the widely held perception that the use of water for some types of irrigated agriculture in Australia, such as rice growing, is unjustifiable in a dry country. Tensions such as this were raised by interviewees in the course of the interviews. They are significant because they cut to the heart of irrigation and how water is used and shared. As described in Chapter 3, many interviewees took the opportunity presented by the research interview to elaborate on matters of fairness and justice important to them at the time. Many started the interview with their own assessment of what they thought was *wrong* in the big picture and also what they thought was *right* and what had worked from their perspective. So in this chapter I will investigate some societal tensions and areas where there are differing perceptions about what is right and wrong in the general area of water allocation.

The main aim of this analysis and discussion is to develop fairness and justice insights into water management associated with irrigation agriculture: what are the issues; what has worked and why has it worked; what has failed and why, and to discuss the challenges. An underlying aim of this study is also to explore the notion of "fair and equitable" solutions: what they look like and how can they be achieved (Chapter 1). The reason for undertaking this type of analysis in a thesis about justice and fairness is that there are many argumentative threads within water

management issues that "muddy" notions of justice and fairness themselves. These issues need to be addressed before more general concluding remarks about justice and fairness in natural resource management can be made.

An understanding of the historical and current context is critical to this analysis, as is an appreciation of why contentious issues seem to be intractable and unsolvable.   While recognizing that this is a vast topic, this analysis is largely focused on perspectives and tensions raised during the case study fieldwork, with added insights and illustrations from the literature. The chapter is structured in four areas. The first two sections are concerned with context. First is a perspective derived from interviewee comments in both case studies which depicts how those *within* an irrigation scheme perceive their community and way of life. While this is generally based on a way of life in what could be seen as the heyday of irrigation, the purpose here is to focus on what *worked* in an irrigation scheme. Second, some aspects of the historical and current contexts of Australian irrigated agriculture are discussed in relation to perceived development myths and current societal divides.   The third section focuses on different perspectives and experiences as a result of recent water reforms and initiatives such as irrigation infrastructure upgrades. Contentious issues within these areas are highlighted. Finally, the fourth section returns to water management and describes initiatives that are generally perceived to have been seen as fair and acceptable by those involved. The reasons for their acceptance and as well as some ongoing challenges faced by institutions and communities in pursuing these types of approaches are discussed. The chapter concludes with a summary of the implications for justice and fairness in natural resource management.

9.1   An irrigation system as a socially cohesive community and as a way of life

> At one level, irrigation is simply the application of water to grow plants. At another level, it is the basis for an economy and a way of life (National Research Council, 1996: 20).

What came out strikingly from the NSW and Victorian irrigation community interviews was the strong sense of community and recognition that the general health of the community was reliant on all parts working well together. This included the relationships between various groups such as between town businesses and irrigators, irrigators and government, and irrigation companies and irrigators. For example, irrigators benefited from having irrigation supply businesses within the township. Everyone benefited from social services such as schools, health care, government and research agencies being located within the area. Therefore, maintaining social cohesion was important: people talked about occurrences of friction and how these had been satisfactorily addressed. While interviewees were articulate about their own perspectives they were also mindful that other positions might be different from their own. Respect for other

people's perspectives was an important aspect of the negotiating process. One reason was that in such small communities everybody knew everybody else and recognized the importance of getting along together. For example, a NSW irrigator described, with regret, how some years ago he felt that irrigators had been unfair to a government employee about a water allocation decision. Since then he had strived to be as fair as possible in his dealings with government employees. Many interviewees related the importance of social cohesion to the future well-being of the community: if people felt good they would stay in the community. Sons and daughters would take over family farms and town businesses and the overall community would thrive and provide continuity for this way of life. Having community leaders and government agency employees demonstrate their commitment to the community by living within it was another aspect of this social well-being. That this had been in decline in NSW irrigation communities for several years was a serious cause for concern. Living in an irrigation community was *more* than just a past and current way of life—it was the future too.

An irrigation system as a decentralised societal structure

Taking the notion of an irrigation community as a *way of life* one step further, an irrigation system or community can also be seen as a *way of organising society*. This perspective was described by a retired scientist in Victoria who had lived and worked in an irrigation community for a good part of his professional life. He said that in his view irrigation communities and irrigation districts were important because, of all the "decentralisation schemes" tried in Australia, "irrigation is the only one that has really succeeded". This interviewee saw irrigation with its intensive farming practices as a means of organising society. This was for two reasons: to achieve a structurally balanced society of coastal cities and country towns and to develop land as a resource. His view was that irrigation was a way to generate wealth, support country towns and achieve diversity in society. In a similar vein, an NSW potato farmer talked about the "socialisation" of water and how that benefited communities that had developed within an irrigation system. The diversity of farming operations was important to the resilience of the community. For example, because he had long-term contracts and could purchase additional water he was able to employ local people at harvest time which was important to the local economy during the drought. This "socialisation" of water was fundamental to the structure of an irrigation community. These perspectives from interviewees about the purpose of irrigation systems as a part of societal organisation were infrequent in the interviews, but they provide an insight into people's belief about the *purpose* of societal structures. On a different level, as described above, there was much commentary about people's desires and expectations for their community and the type of society they wanted to live in. These aspirations came through loud and clear. They included stability, security for the future, being dealt with fairly, and being recognized and valued for their contribution to society (Chapter 7). In this context many people lamented the fact that they did not feel they were valued as food producers and that the nature of irrigation farming was frequently misunderstood.

An irrigation system based on the "socialisation" of water

Irrigation communities had been built in an era of nation-building.   The so-called socialisation of water, in which water was supplied at low cost through publicly funded infrastructure, was a central societal arrangement that had largely persisted over the years. The original layout whereby water was tied to the land was a design feature of an irrigation system (Chapter 4). The irrigation system and community then developed over the course of many years, in response to changing conditions, but the central feature of water supply remained intact until water reform in the late 20th century. The success of this co-evolution in NSW with respect to the way water was allocated was articulated by a NSW government agency interviewee: "the different approaches have been worked through in each state based on their needs, based on their demographics, based on their soil types, based on their agricultural types… it would be really stupid to compromise that… it really has worked well for NSW". This interviewee was talking about the different approaches between NSW, Victoria and South Australia with respect to water allocation and the NSW split between general security and high security water. His point was that NSW had developed an equitable approach to the variable supply of water in NSW which was different to the approach developed in other states. He suggested that the two-tiered approach in NSW had been highly successful because it enabled 10 to 15% of water to be classified as high security, so that in a drought year that water could still be supplied. This approach was also valued by the irrigation community: the system that had evolved was seen to be fair and equitable under these water arrangements. The original allocation of water was based on equity with the water entitlement being in proportion to the area of land. In seasonal terms, irrigators would share equally, or proportionally, in reductions or increases of water available to be allocated. Those irrigators with high value plantings paid more for their higher security water, which was limited to 10 to 15% of the overall water allocated. This allocation arrangement and the procedures by which the annual allocation was communicated by the government and delivered by the irrigation company were generally seen to be in balance. This provided a secure setting for farm and business planning for irrigators and the community alike, on an annual basis and into the future. A similarly long-standing set of (different) arrangements in Victoria also provided a secure background for the development of irrigation communities in the Goulburn Murray Irrigation District.

An irrigation system as a fair and equitable system

Summarising, then, an irrigation system can be seen as a community-based system of food production, in which agreed water arrangements are seen to be fair and equitable. There are two main reasons for this.   The first is that the resource—water—was seen to be shared equitably and arrangements existed to allow for variations in the availability of the resource. The second is that these arrangements within the system could be adapted in response to external changes and that there were agreed procedures and arrangements in place to accommodate these. Individuals within the community operate their business according to community-based

arrangements for water sharing. The advantage of such a system for those within it is the relative stability of the structure of the arrangements for water sharing. Costs of maintaining the system were shared between the water users with water being tied to the land.

However, the disadvantage of such a system is that people wishing to buy water permanently had to buy it with the land and use it within the system. But, ironically, water being tied to the land was an original design feature *as well* as a reason for the reforms embodied in the National Water Initiative. What changed was that in the meantime, water in general in the Murray–Darling Basin had become over-allocated, exacerbated by such actions as the sleeper and dozer activation (Chapter 4). The national reforms introduced to address the over-allocation applied to all water users in the Murray–Darling Basin.

9.2 Context and complexity

Divides and perceptions of agriculture

> Most people just think the farmers continue to whinge and this time they are whingeing even harder... But Melbourne people are so far removed from farming and the food and the land that they have no concept of how food is produced (Victorian dairy farmer and cheese producer)

> Significant differences have emerged on both social and economic fronts such that the wider status of agriculture is itself under challenge (Crase and Dollery, 2008:88)

The contribution to the nation's prosperity by irrigation communities in the NSW and Victorian "Food Bowl" areas of the Murray–Darling Basin is considerable. But it is perhaps symptomatic of the decline in the nation's psyche of the value and diversity of Australian agricultural produce that prompts governments to promote regional products in city events (such as a government media release entitled "Riverina's 'food bowl' showcased to Sydney", October, 2008) (NSW Government, 2008). That there is a tangible rural–urban divide is keenly felt within irrigation communities: this was articulated by many interviewees in this study. One economic explanation for this "loss of perceived worth of the traditional activities of rural communities" is the decline in the agricultural proportion of Australia's production in the latter part of the 20th century, from 21% of GDP in 1948 to 3% in 1999 (Samuel, 1999:11; Crase, 2007). But another major cause has been increasing environmental awareness by urban populations and heightened concern about the impact of agriculture on river systems, native flora and fauna and rural and coastal ecosystems. There are widespread perceptions in which people assume that irrigators are increasingly responsible for environmental degradation in those river systems suffering extreme water shortage because of their use of water in pursuit of their own self-interest. Photographs of shimmering blue water-filled rice paddy fields

surrounded by brown arid landscapes of the inland add to societal tensions caused by emotive-based judgements about the use of water and lead to the castigation of rice growers. Irrigation communities resented such accusations of "wasting water" in the face of their efforts to achieve greater water efficiency and conform to good environmental practice, and as a result many irrigators feel embattled and undervalued as food producers and contributors to the nation's economy. Irrigators defended their use of water and criticised these types of judgements as uninformed and lacking consideration of other farming criteria as to their use of water.

That there are tensions, divisions and perceived misunderstandings or gaps in urban knowledge about farming practices is recognized by some governments and agricultural organisations (Filor, 2007; Hopkins, 2009) and has resulted in national advertising campaigns and programs such as the annual "Farm Day" event *(The Land*, 2009). These aim to foster better relations between city people and rural people and increase urban understanding of modern farming and how food is produced. Interestingly, these trends are not restricted to Australian agriculture: a similar education program has recently emerged in the United States (*Farm Futures*, 2009). Despite these well-intentioned initiatives there is no doubt that rural industries, particularly the irrigation industry, are facing mounting challenges which would appear to only broaden these divides. Two main areas of division can be identified from this research: between rural communities and governments (state and federal) and between rural communities and urban communities. For example, a number of interviewees in the NSW irrigation communities studied felt strongly that government agencies had largely failed to engage with them. This perception was widely held in the NSW study, and to a lesser degree in the Victoria study, where there has been a broadly recognized track record of community consultation in water management. This lack of engagement has resulted in strained relationships, a lack of understanding of potential and realised social impacts following implementation of government policies and a lack of recognition of local knowledge in the development of plans and policies. In contrast, the gap between rural and urban communities was rather perceived to be due to a lack of knowledge and understanding on the part of city folk because of declining levels of interaction between the two areas.

It is important to appreciate the existence of these divides, even though they may fall anywhere on a continuum between vague perception and harsh reality. This is because they illustrate the differing worldviews held by groups or communities on either side of the divide about issues ranging from how society should be structured to how economic or natural resources should be allocated and used. Appreciating that there are different worldviews and gaining an understanding of them is a necessary step on the way to allocating or sharing resources in ways that can be accepted. A second step is maintaining a historical and holistic perspective on these worldviews to understand how embedded beliefs and values from different phases of development can persist through time only to resurface in a different phase or place.

Development phases: old myths to new myths?

> To an important extent the approach to water management has been based on acceptance of a number of myths about the nature of the resource on the one hand and human behaviour on the other. To some degree the various myths are a result of ignorance, either of early settlers or of their successors, but they are also a reflection of various cultural and political factors (Sewell *et al.*, 1985:231).

> The bitter irony of the current drought is that it has again called forth the same myths and false beliefs that got us into trouble in the first place (Williams, 2003:40)

An appreciation of the historical context and how situations come about is important in developing a clear understanding of a current societal state of affairs, whether it is one of conflict or one that works well. This can be facilitated by the use of an organising framework, such as Boyden's (2009) framework (Chapter 3), in which the role of the dominant culture and its influence on societal arrangements can be identified. As shown in Chapter 4, where the three phases of water development in Australia are reviewed, the differing dominant cultures in these phases have had a profound effect on water management and use. Some well-known myths about the use of water in Australia were spawned in these phases. For example, the second phase of nation-building and economic development was powered in part by two myths that persist to this day: that water runs to waste to the sea and that we can drought-proof Australia (Sewell *et al.*, 1985; Edwards, 2003; Williams, 2003). Recent proposals to turn rivers inland and pipe water from one part of the country to another have been presented not only as solutions to water shortages in capital cities but also as a remedy for the lack of water in the Murray–Darling Basin (Williams, 2003; Watson, 2007; Neales, 2008). Examples of these water diversion proposals are the Bradfield scheme in north Queensland, the Ord River in north Western Australia, the Clarence River in northern New South Wales and the pipeline from Tasmania to Melbourne. Such proposals have sparked media commentary in which opposing viewpoints are presented but which seem to gloss over the complexity of the proposals themselves. For example as a response to a call for new dams by Alan Jones, a well-known media presenter, the late Professor Peter Cullen, a well-known water scientist, countered:

> You can't drought-proof Australia. We need to learn to live with the landscape, not trying to fight against it all the time. Reversing rivers is a simplistic reaction to a complex set of problems. (ABC Media Watch, 2002:1/1)

Many of these large-scale infrastructure proposals are short-lived or put back on the shelf when details are worked out and the practical feasibility, costs and environmental impacts become apparent. However, the fact that these proposals do persist, despite being roundly criticised, suggests that these myths are not universally recognized as myths: they are still perceived as viable solutions to drought, water shortage and growing populations.

The importance of drought as a driver of change and catalyst for public investment in infrastructure in the first two phases of water development in Australia has long been recognized (Rutherford, 1966; Lloyd, 1988; Smith, 1998; Martin, 2005). However, as this thesis has shown, the urgency and threat posed by drought still remains a catalyst for large-scale infrastructure projects in the current third phase: the Victorian North South Pipeline is one example. Although the North South Pipeline was put forward and justified on a "human needs" basis, its development brings to the fore many current-day tensions of this third phase. These tensions revolve around the continued exploitation of natural resources to promote the current economic paradigm (Mercer *et al.*, 2007) and the need to find more balanced approaches, as described by Professor Peter Cullen above. The three sentences in Professor Peter Cullen's quotation aptly describe an emerging set of beliefs, many of which were put forward by interviewees opposed to the North South Pipeline. For example, one Plug the Pipe campaigner suggested that the pipeline was a "primitive" response to urban water shortage and that "micro-solutions" (such as recycling and household water tanks) were much more appropriate than large-scale public infrastructure solutions. In other words the notion of a large-scale infrastructure response to water shortage could itself be seen as a myth of a past age. In the same vein, a number of interviewees commenting on the Victoria pipeline suggested that taking water from one river system to another system was no longer acceptable—with the implication that this was perhaps yet another myth. In other words, the river system itself was perceived to have a right over the water in the system, irrespective of perceived human needs in another river system.

A significant part of contemporary Australian society is based on earlier incarnations of myths (for example, the River Murray irrigation schemes and the Snowy Hydro scheme) in which large volumes of water are diverted from one catchment area to another catchment area. In response to the suggestion that large-scale diversion of water is no longer acceptable, an NSW government agency interviewee wryly commented, "we have lost the precedent for the argument about keeping water in catchments (river systems), even though it is a good one, and probably should apply". In other words, in his view, there is now no basis for the argument that water in one catchment area (or river basin) should remain in that catchment and not be transferred elsewhere. This is a complex area in which there are many perspectives. For example, an irrigator claimed that the Snowy Hydro scheme had been built primarily for irrigation, and should be preserved for irrigation. Another long-time irrigator pointed out that without the irrigation infrastructure the River Murray would not be flowing in the 2007 drought, so the current social and environmental benefits of having water in the River Murray during a drought should be recognized as positive by-products of the irrigation schemes. Nevertheless, despite these references to the historical context interviewees for the most part were concerned with their own current context, particularly the erosion of water security for irrigation.

This brief review shows that maintaining a contextual perspective is important for a number of reasons. First, people tend to see their own position from their own subjective context—not from a more clinical dispassionate perspective. For example, a lifetime of work based on the beliefs and values of a past era is unlikely to be cast aside on the basis of it being "outmoded" unless there is persuasive evidence to the contrary. Second, the rationale and driving force that justified such schemes as Snowy Hydro were markedly different to the drivers of change today, yet the very existence of the schemes creates a different set of tensions. People within the schemes and on the fringes of the schemes can be operating under a different set of beliefs about the scheme without fully recognizing—or admitting—the shift beneath them. Third, while the *need* for change may be broadly understood, the way in which change is introduced and the type of change required must take into account the starting position of the different participants or stakeholders. For example, the starting position for some is rooted in an earlier irrigation psyche, whereas for others the starting position is the current environmental crisis. Finally, a contextual perspective is necessary to understand the baseline from which issues of equity can be adjudicated. Recognizing that drivers of change can be perceived simultaneously as outdated myths or valid modern-day solutions is an important aspect of the current context. Governments responsible for policy changes must be aware of changing cultures and the metamorphic nature of their embedded myths: myths fade, they reappear and they are distorted or disputed. The question now becomes: how can these different myths or perspectives be captured, corralled and held and understood together in a type of current mindset? That such matters are complex is not lost on government. As a Victorian government agency interviewee commented on the controversy surrounding the North South Pipeline, "it is a political game for the media and there are a lot of massive ignorances. These things are technically complex". He went on, "it is never a good idea to respond to media headlines which tap the emotional side with a whole lot of technical data which is actually complex and confusing". Complexity is a recurring theme of the water tensions and perspectives explored in the next section.

9.3   *Water tensions and perspectives*

While myths, ideas and disagreements may persist about what to *do* about problems such as drought and floods, there is *no* disagreement that the southern part of the Murray–Darling Basin is in crisis. This section outlines some current perspectives and experience with recent policies and initiatives to address the crisis. These include concerns with the way water has become a private good (rather than a public good), water trading as a mechanism to solve scarcity problems and government spending on infrastructure projects as a partial solution to water shortage. Many of these perspectives are deep-seated and philosophically-based with roots in earlier development phases, often associated with grand goals such as "nation-building". They are also concerned with side-effects or adverse unanticipated consequences which may have immediate or delayed fairness, equity and justice effects. The perspectives in this section

are those given by interviewees in the three studies as well as some additional insights from the literature. The goal here is to give an indication of the complexity and diversity of perspectives about water use: it is not to give a general overview of water reform policy.

9.3.1   Water reform: introduction of water markets

The National Water Initiative (Chapter 4) is a national approach to water management in which environmentally sustainable water use is the primary objective (Connell and Dovers, 2006). Essentially, this is to be achieved through the use of water markets in which the intention is for water to be used to its highest value. This objective makes the assumption that as a scarce resource, water will be more highly valued, and the market mechanism facilitates the transferring of water rights to achieve this so-called highest value use. There is substantive agreement that as a reform program, the National Water Initiative is ambitious and has many challenges ahead, not least of which are the differing legal and institutional state arrangements that are impediments to the national approach (Connell *et al.*, 2005; Fisher, 2007; Hussey and Dovers, 2007). But also, there are some fundamental concerns about the reform: some of these are now outlined.

Water reform: water to the highest value and water trading

One concern is whether the assumption that a free market approach to water use is an appropriate way to deal with a scarce resource, particularly in Australia where the water supply is extremely variable. For example, a long-time orchardist irrigator in the NSW study suggested that there was a great deal of ignorance about the nature of irrigation. He was concerned about permanent trade increasing the amount of water allocated to high-value crops. He suggested that only a small portion of the total water allocated should be made available for high-value crops, due to the "massive variation in rainfall and inflows". This is why a range of industries had developed which included high-value crops such as fruit and vegetables and lower value opportunistic crops such as rice and cotton. He suggested that the current proportion of high-security water, about 10 or 12% of the total water, was the right amount to be allocated to high-value crops. With respect to trading, this interviewee suggested that temporary trading was a suitable mechanism to shift water where it is in excess to where it is needed, within the region, between regions and interstate. However he was against permanent trading because it had facilitated new irrigation enterprises, such as those managed investment schemes (Chapter 4) which had bought large parcels of land downstream from the major Victorian and NSW irrigation areas. Such a movement of water permanently out of an irrigation district had the potential to destabilise the operation of the irrigation system due to the "stranded assets" problem (Chapter 4). This interviewee was concerned that "massive changes" were being advocated within the National Water Initiative reforms without consideration of the potential impacts. He was also concerned about the possibility for "today's high-value industry becoming

tomorrow's low value industry" due to overproduction and oversupply, as had been seen with some varieties of wine grapes.

Water reform: complexity and lack of understanding

That there is a good deal of complexity in Australian water reform is widely acknowledged (Connell *et al.*, 2007; Fisher, 2007; Hussey and Dovers, 2007; Crase, 2008). Connell *et al.* (2005:93) suggest that water trading in the National Water Initiative will "create a complex maze" in part because it promotes trading in entitlements with different levels of security. Gardner and Bowmer (2007:54) also draw attention to the reform process whereby "conversion of high-security licences to fully tradeable entitlements risks converting an insurance against need into a profit from other people's needs in times of scarcity". In other words the original purpose of high security water—high reliability for high-value plantings, such as orchards—will be transformed through the trading process into whatever the purchaser deems is a suitable purpose. The implication from these observations and interviewee concerns is that the water trading reform has the potential to disrupt a fairly long-standing balance between the different types of water entitlements, different water security requirements for temporary and permanent horticultural and agricultural crops and irrigators' ability to adapt to these changes in managing their farming operation.

The significance and importance of maintaining a balance between high-value crops and opportunistic crops due to water variability needs to be made clear. A lack of understanding of this point may be leading to incorrect assumptions. This appears to be the case in a 2007 review of water policy in Australia by Mercer *et al.* (2007: 283) in which they state that "the bulk of irrigation water is producing relatively small returns per megalitre" and they compare the proportion of water used on high-value crops (30%) versus low value crops (70%). By making the statement "about 2/3 of the value of irrigated crops comes from about 1/3 of water used" the authors seem to imply that more water should be used for high-return products, in line with the market based objective. However, while it is possible that more water *could* be used for high-value crops, it should also be recognized *why* the current proportion exists: to safeguard high-value crops in time of drought. Opportunistic crops, such as rice and cotton, are only grown when the water is available and therefore also have value in irrigated agriculture. Equally, it should be recognized that water is but one of many decision-making points in an agricultural enterprise: investment in specialised machinery, irrigation technology, land suitability, access to markets, access to funding and availability of staff are other factors involved in farmers' decisions in determining what crops to grow.

Water reform: equity and the activation of sleepers and dozers

A number of irrigators in the NSW study expressed the view that the government reforms had actually increased the problem of over-allocation with the activation of sleeper and dozer licences (Chapter 4).   This problem had been recognized as one that could affect security of supply for other water users and is put forward as one reason for the delay of implementation of permanent transfers (Tan, 2002). It was also thought to have the potential to increase overall water extraction by 15% (Smith, 1998:293). These fears appear to have been well-founded with recent reports confirming considerable trade in sleeper allocations (Gardner and Bowmer, 2007; Lee and Ancev, 2009). That this problem was foreseen, at least by 1994, but could have been avoided raises questions about the way water reform has been implemented (Bell and Quiggin, 2008). The decision to honour sleeper and dozer licences rather than making a decision on the history of use (Chapter 4), was based on an assessment of equity for those licence holders (Gardner and Bowmer, 2007). An NSW government agency interviewee suggested that this was the *only* course of action that the government could take to avoid future litigation. However, if the consequences of a decision only serves to worsen the situation for all water users (Bell and Quiggin, 2008), this puts into question the rationale behind the decision, as well as the process used to make the decision. Gardner and Bowmer (2007:50) suggest comparative studies and an examination of an alternative "use it or lose it" policy, such as used in the US, could have merit in the context of transferability of water entitlements. A similar situation occurred in the Murray Valley with the implementation of the Murray–Darling Basin Cap, whereby licensed entitlement was chosen over the irrigator-preferred history of use option. That decision resulted in water users feeling they had been treated "equally badly" (McLeod and Warne, 2008:101)

9.3.2   Equality, and a voice for the environment?

Although concern for the degraded state of the Murray–Darling Basin was a principal driver for the water reform, and despite the existence of many organisations with an environmental focus, such as the Wentworth Group and Australian Conservation Foundation, it can still be argued that the environment does not yet have an effective voice. For example, some Plug the Pipe interviewees in Victoria bemoaned the fact that Victorian environmental groups had not voiced any serious opposition to the pipeline, leaving the fight primarily to Plug the Pipe. The way national and state governments have responded to environmental needs for increased natural river flows in the Murray–Darling Basin has been to instigate water buy-back programs. An NSW government agency interviewee suggested that the NSW government had effectively become the "voice for the environment" through this buy-back mechanism. He characterised the government water buy-back program as gaining equity for the environment and "giving the environment some equality in water use".   While many criticised the government for "pretending to be the environment", and thought that the government should not be in the market, in his opinion this was the only way to return water to the environment under the current market system. However, he thought that current policy was "flawed" because

environmental sustainability was not yet built in despite being talked about for decades. He was critical of the market approach—"markets are quite wasteful, very wasteful" and can "squander resources"—because rapid land use changes as a result of market forces have produced excessive waste when permanent plantings such as vineyards and orchards are "ripped up". In his opinion the federal government should focus on facilitating structural adjustment in some marginal irrigation areas, whereby environmentally problematic irrigation schemes would be closed down. Compensation would be used to purchase the water rights, shut down irrigation channels and return the area to dry land farming. This had been done successfully in some parts of Victoria. But the challenge for government to be able to facilitate such initiatives was in communicating the bigger picture and negotiating with people who may be unlikely to accept that as a fair solution.

A deep concern for the environment was also expressed by an executive-level interviewee involved in natural resource management in NSW. In his perspective there were some fundamental justice issues with the current government approach. First he described the economic model as "unjust" because it does not take account of externalities such as environmental degradation. In his opinion, externalities should be included in the product costing and are currently incorrectly attributed to the farmer. Rather, he thought it is the *consumer* of the product that is "taking the water out of the river" and not the farmer: the price of the product should reflect this. He thought it was *unjust* to expect the farmer to be responsible for the full cost of the irrigation system and for restoring river health. He strongly suggested that we cannot be "just in our society" until "we know about the footprint of our food choices and farming choices". In his opinion regional structural adjustment was necessary "to face up to the basic inequalities and injustice underneath this whole show". On a higher level, this interviewee thought that the bigger picture and "higher-level issues" of the environment were not being addressed. First, he thought that the scope of justice should be extended to the environment: that the environment should be seen as valuable in its own right, not only because it is of advantage to our well-being to have a healthy environment. Second, he thought that the current "ad hoc fix ups", such as water buybacks and some infrastructure projects were part of culture of "doing little bits and pieces" without a full appreciation of the "bigger picture". In this he was critical of the North South Pipeline construction taking place before the overall Basin Plan for the Murray Darling basin was complete.

In summary, these interviewees were of the view that the water reforms do not go nearly far enough to address the structural changes required to put environmental or social concerns on an equal platform with a economic considerations. In fact, to the contrary: in spite of the water buy-back program water trading has further muddied the waters, so to speak, with the recent rise and fall of some large corporate holdings of water entitlements. The failure in May 2009 of two large agricultural managed investment schemes (ABC Rural, 2009) is another example of perverse consequences from an environmental and social perspective. The irony is that these

were not "unanticipated consequences" as such, but were correctly foreshadowed in the 1980s before permanent trading commenced (Pigram 1993; Bell and Quiggin, 2008). As this record has shown issues of justice and fairness are central to these sorts of strategies.

9.3.3   Public funding and water savings: skeletons in the irrigation closet or more myths?

> Instead of a national symbol of progress and growth, some now see irrigated agriculture as a depleter and polluter of water, living off government subsidies (National Research Council, 1996: 24)

Much has been written about irrigation in Australia past and present. But in spite of numerous detailed analyses by environmental historians, economists, agricultural scientists and academics from various disciplines, the *story* of irrigation is yet still confusing and controversial. Why is this? Is it due to a combination of inherent complexity, a lack of broad perspective and entrenched viewpoints? It is useful to review briefly some past and current perspectives about irrigation schemes, bearing in mind, as we have seen earlier with the persistence of myths that a past perspective is likely to still be current. As Edwards (2003:194) remarks "The water situation has not always been kept in perspective" in the development of irrigation.

Wasted public funding?

Perhaps there are two fundamental reasons that publicly-funded irrigation schemes receive so much scrutiny: they have benefited from substantial public investment to set them up and they control and use significant amounts of water. Possibly a third reason is that irrigators are seen as part of a large and powerful rural lobby that is perceived to receive special treatment, for example, drought relief (Lloyd, 1988; Crase, 2007; Musgrave, 2008). However, the twin focus of current contentions is the continued public funding of infrastructure upgrades and the degree to which water is used efficiently. While the last publicly funded irrigation scheme in NSW was introduced in the 1960s it was in that same decade that criticism of irrigation from an economic perspective was voiced (Langford-Smith and Rutherford, 1966; Lloyd, 1988). The issue for economists was that public money could be better spent elsewhere: irrigation schemes could never be profitable. In 1969, Davidson (1969:4), an agricultural economist, suggested that Australia would be better served "if decentralisation is a desirable aim, it could have been achieved on a far larger scale by devoting a similar quantity of resources to settling new dry farming regions". Davidson (1969), now often quoted, was important because he boldly criticised the then entrenched Australian belief in irrigation for the dual purpose of profitable agricultural production and drought-proofing. He suggested that accurate measurement of irrigation profitability would readily dismiss Australian support for irrigated agriculture as a cure for drought (Davidson, 1969).

Although this period can be seen as a turning point in attitudes away from irrigation, as Lloyd (1988) recounts, the irrigation schemes were in place, the funds already spent, and communities were established. There was no turning back. But looking forward, state government policies shifted towards the user pays principle whereby irrigators became responsible for maintenance of the infrastructure. Despite these government intentions and directives, the required level of investment from irrigators did not eventuate and publicly owned irrigation infrastructure in Victoria was not maintained to the standard required. Water losses as part of the transport of water through the system increased. Eventually, in Victoria, the Food Bowl Modernisation Project was initiated. As already described, this has been a controversial project in many areas, and the irrigation infrastructure upgrade itself, even considered separately from the North South pipeline, has triggered substantial critique. There are four key perspectives. First, from irrigators who are opposed to giving away water in return for the upgrades, second from economists or commentators who question using public funds for the upgrades, third from the deal-makers consisting of the Victorian government and Food Bowl Unlimited and fourth, the environmental concerns about the health of a river systems.

First, a view described by many Victoria pipeline study irrigation interviewees is that the government should be responsible for funding improvements to publicly owned infrastructure. Their argument is largely two-fold: first that they are price-takers, they do not receive subsidies like some global competitors and it would be uneconomic for irrigators to bear the full cost. And second, publicly owned infrastructure should be maintained by public funds, in the same way that roads and hospitals are funded. Unsurprisingly, economists take an opposing view. This is the second key perspective. Watson (2008) a freelance economist based in Victoria, acknowledges that while the public sector must deal with public investment legacies from the past, such legacies do not justify a current preoccupation with engineering solutions such as irrigation upgrades. He questions these investments in three areas. First, such investments are at odds with earlier government objectives of cost recovery; second, choosing between competing upgrade projects raises equity issues for those irrigators or irrigation organisations who have already invested in on-farm or off-farm improvements; and third, he questions the validity of the water savings themselves.

Water savings under scrutiny: robbing Peter to pay Paul?

Also raising concerns about water savings, Crase and O'Keefe (2009: 57) argue that "the present enthusiasm for 'modernising irrigation' stands to replicate and even exacerbate earlier mistakes". Their contention is that the premise on which these upgrades are based is flawed. They suggest that there is confusion around the notions of water-use efficiency, water-savings and water-losses and argue that return flows and recycling in an irrigation system have generally not been taken into account. The essence of their argument is that water that is lost from one part of the system is gained by another: there is no overall loss of water: as they point out rather caustically "when water is 'lost' from an irrigation district in Victoria it does not go to

Mars" (Crase and O'Keefe, 2009:51). Thus water efficiency measures in reality redistribute the water from one user to another, whether this is from or to an irrigator, a wetland or a downstream user. Crase and O'Keefe (2009) refer to the systems approach suggested by Gyles (2003) in which water flows within the river system or basin as a whole are considered. This perspective put forward by Crase and O'Keefe (2009) is shared by a number of irrigator interviewees in the Victoria pipeline study, who contest the notion of water savings as the basis for the three-way split of saved water (Chapter 6).

Another angle within the economic perspective is that given by Crase and Dollery (2008), who suggest that reforms have actually benefited irrigators and irrigation organisations, at the expense of the state, because the establishment of markets has raised the value of the water rights. This hidden potential benefit was not lost on several irrigation interviewees who acknowledged that individually they stood to benefit by selling their water, but this would be at the overall cost to the community by exacerbating the stranded assets problem (Chapter 4).

The third key perspective concerns the Victorian government and members of Food Bowl Unlimited who constructed the deal. The deal whereby the government would fund $1 billion worth of upgrades and in return receive up to 75 Gigalitres of water from the savings was thought to be a good trade-off based on the needs of Melbourne water users and irrigators. As some Victoria study interviewees pointed out, the government did have other cheaper options to gain this water: it could have built the pipeline and purchased the water through the water market. But by investing in the irrigation infrastructure the government was demonstrating that it did value the irrigation community and was willing to invest in it to provide future water security for the region. This approach, however, was questioned by some interviewees who thought there could be substantial water rate increases for Melbourne ratepayers, who perhaps as yet were oblivious to this future cost. The fourth perspective is that put forward by interviewees concerned about the environment (described above in Section 9.3.2).

New myths?

What to make of these different perspectives? Embedded in these contested positions and perspectives is a range of difficult questions with roots permeating down through different layers of technical, economic, political and philosophical considerations and beliefs. Are the savings real or just a redistribution of water? Are irrigation farmers the meat in the sandwich between consumers and markets or merely benefiting from the public purse? Can environmental externalities be costed into food prices? Should food production from established irrigation schemes be seen as in the public interest and therefore publicly supported? How can positions of equity be incorporated into decision-making? These questions are all related to the sharing and allocation of natural resources, and therefore firmly within the domain of fairness and justice.

These and other questions are not unique to irrigation and water use in Australia. In a recent broad review that takes a global perspective, Molle and Berkoff (2009) examine current-day tensions that exist between cities and agriculture, including questions such as those above. They challenge many assumptions about the use of water including perceptions of an inefficient irrigation sector that impedes water being used to its highest value. They propose that irrigators are frequently *unfairly* branded as water-wasters, arguing that "waste is often relative: if water has no other economic use and is not scarce then '*wastage*' is of little concern other than for any impact it has on the environment" (Molle and Berkoff, 2009:8 their emphasis). This type of analysis is important because it highlights current trends in thinking about water use and challenges commonly-held and often simplistic assumptions. As we have seen, myths from the past not only rise time and time again, but they can be wasteful in taking attention and resources away from new initiatives that should be focused on gaining a better understanding of present-day issues.

The main point from this summary is that irrigation and water management is deeply complex, highly charged, frequently misunderstood and hotly contested. Embedded in this complexity are issues of fairness and justice. An evaluative approach is required that recognizes the need for careful factual analysis and one in which there is a respect for the legitimacy of the different positions of stakeholders.

9.4 Fair and equitable solutions in water allocation

This chapter started with 'insider' perspectives of working irrigation schemes gained from interviewee comments, descriptions and anecdotes from the NSW and Victoria studies. Interviewees generally perceived arrangements within such schemes as being largely based on notions of equity and fairness: they were living within schemes which they perceived as fair and equitable. The schemes were based on a conception of water delivered as a public good whereby irrigators would add value by producing food to be used in the national interest for domestic consumption and export earnings. In this section the analysis examines this theme of fairness in water allocation more closely by taking a look at some specific examples of what has been widely accepted and perceived to be fair and just in water allocation decision-making. These situations and decisions were largely described by interviewees in round three. This section explores interviewee viewpoints about natural resource management decision-making processes in NSW and Victoria and some of their direct experiences of such decision-making processes and outcomes. The section briefly explores challenges to effective water management decision-making.

Resource management in NSW and Victoria

As part of their response a number of interviewees made some general observations on the style and effectiveness of natural resource management decision-making from their experiences in NSW and Victoria. In part this was to explain how some government agencies operated and

what type of challenges they faced. These are important observations which add to the overall context of the research because they highlight different approaches that have evolved in NSW and Victoria. For example, one government agency interviewee described NSW policy discussions as being "opportunistic… often reactive" and "the top end of policy has become highly politicised because they are responding to the minister's needs". He suggested that this mode of operation has reduced the amount of time policymakers spent thinking about broader policy issues. Another politician interviewee suggested that in NSW the public service had become, to a certain extent, "an arm of the political process" to the point that they were "uncomfortable about speaking up, about criticising". This negative perspective about NSW was shared by another executive-level round three interviewee who had experience of both NSW and Victoria and who thought that "NSW is so hopeless" when compared to Victoria in relation to their respective capabilities in natural resource management decision-making. This interviewee suggested from her own personal experience that Victoria had done an excellent job with its approach to water strategy in each region of the state, particularly in terms of the consultation process. A federal politician interviewee echoed these sentiments in suggesting that it was "not the NSW approach" to engage people in decision-making and that "public service in NSW is really struggling with people to do the job properly".

These impressions from interviewees with a working knowledge of government in NSW and Victoria were to some degree reinforced by comments made by interviewees from the government agencies directly responsible for water management in NSW and Victoria. For example, an interviewee in NSW described how involved the Minister had been in the decision-making process concerning the reaction to the carry-over cut backs. It was clear from this interviewee's comments that the Minister had been very involved throughout the process. In contrast, an interviewee in Victoria described the approach in Victoria as being "about getting decision-making as far out of government as possible and into the hands of individuals". In his view a good process is to "push the choice down to the local levels" and he described how policy in Victoria was concerned with getting incentives right so that individuals or groups of individuals were empowered to make their own decisions. Policy development in Victoria had been designed around consultative processes which encapsulated the principles of procedural justice.

These observations concerning natural resource management decision-making in NSW and Victoria show that interviewees thought the general approach in Victoria was superior to the approach in NSW, largely because it was more concerned with the long-term and strategy, it was more consultative and there was less political involvement. This finding, that interviewees generally perceived NSW in a lesser light than Victoria when it came to natural resource management decision-making, is important from a contextual background perspective. First, it shows that people in high-level positions critically evaluate state agencies and do make overall judgements about the relative capabilities and operating styles of these agencies in natural

resource management. Second, as the case studies have shown, individual examples of decision-making processes do not always follow along the same lines as an overall perceived reputation of the state. For example, Victoria was perceived to have completely failed to consult or engage with landowners along the route of the North South Pipeline. On the other hand, as the following paragraphs show, interviewees from *both* states had been involved in successful decision-making processes where satisfactory outcomes had been achieved. Therefore, while overall perceptions about state agencies may exist, ranging from good to poor, it does *not* follow that all decision-making undertaken by that agency will conform to or remain at that level. Capabilities and experiences are diverse and mixed. For example, as one interviewee summarised his perception of the situation in NSW water management agencies "there are some very good people in there, ethical people, but the policy and the drivers, I am not sure, I feel they are very reluctant to engage in a genuine process". Interviewee experiences from NSW and Victoria, described in the following paragraphs, provide examples of water allocation decision-making and show how fairness and equity issues were addressed.

NSW: No magic pudding but a consideration of needs

"There's no magic pudding" is the term used by a government agency interviewee to describe the declining amount of water available to be shared by competing users in NSW. The experience of the last few years of drought and difficult decision-making in NSW, as well as strained relationships with the other states sharing the same resource pool, led him to the conclusion that the challenge for the federal government and new Murray–Darling Basin Authority in developing the Basin Plan was significant and would have to be based on careful consideration of environmental needs. Nevertheless, some lessons in NSW had been learned. Starting with the first round of carry-over cuts in 2006, the interviewee suggested that tough decisions had to be made because this was a new situation, based on record low inflows, which had never before been encountered. In discussing the elements of procedural justice and the distributive justice principles of need, equality and equity, he recounted how, in 2007, in a similar situation of record low water availability, he was successful in gaining acceptance from a group of stakeholders to distribute water based on "critical needs". He described this in terms of distributive justice in which the needs of the various industries, such as permanent plantings, the paper mill, feedlots, winemakers and a munitions factory, were able to receive minimal amounts of water to keep operating. For this decision, taken outside the normal water distribution arrangements, NSW had been criticised by Victoria and South Australia for "distorting the market". However, the interviewee described this needs-based decision as being necessary to ensure "minimum damage to regional economies and regional communities as we could possibly get". Importantly, participants from different stakeholder groups also agreed, albeit "begrudgingly", with this emergency water distribution, as the interviewee described it, "it worked exceptionally well" even though it was done on a "preferential basis" .

In discussing overall water allocation policy in NSW, this government agency interviewee was comfortable with the two-tiered NSW water allocation arrangements and the government's ability to deal with new situations as they arose. He described how the NSW high security and general security water allocations had been worked out over time based on the characteristics of the irrigation industry, and these were largely based on the concepts of need, equity and equality. Although critical situations did arise, such as the carry-over water episode, these could be worked out with a consultative approach based on the principles of procedural justice. The 2007 water distribution, described above, was a case in point. From this research analysis, it can be seen that the earlier carry-over water episode in 2006 was unusual in that it had many elements which failed together: failure of rain, a perceived underestimation of water by authorities, a lack of sophistication of administrative capability on the part of the government agency, a lack of understanding on the part of irrigators as to the constraints underlying carry-over water, a lack of coordination between the institutions involved with water distribution in NSW and a lack of preparedness of government agencies to sound a warning alarm sooner. Once the severity of the situation had been assessed, and stakeholder groups gathered together to discuss the situation, an acceptable outcome—the second cutback—could be achieved. As the interviewee described it, this "trial and error" style of decision-making, made necessary by the record low inflows and requirement to satisfy critical human needs, had ultimately worked well even though it was the first time the NSW government agency had faced this situation.

NSW: procedural justice works

An executive-level interviewee involved in natural resource management in NSW was very familiar with the theoretical notions of procedural and distributive justice, in large part from his knowledge of work carried out under the leadership of the CSIRO. He described several areas in his experience where processes and procedures that included principles of procedural justice had been successful in obtaining outcomes that would otherwise not have been possible. In his opinion the value of a fair and transparent process in achieving acceptance of outcomes was proven "absolutely" and he had incorporated this approach, as far as he could, into his work in natural resource management. He cited the work of the CSIRO in the Namoi Valley as being a good example of achieving success through the use of procedural justice principles. He suggested that a good process will often lead to a redistribution of resources that benefits the environment and that people are more likely to voluntarily give up natural resources, such as water, when these types of processes are employed. He said, "I have lots of examples where people are willing to forego private good for public benefit" and suggested that this was particularly strong where people could see a connection to the outcome, for example, giving up water for wetlands to enable bird hatching to take place. Seeing the outcome happen, such as a bird hatching event, gave a sense of ownership and, as the interviewee suggested, people could then feel that they had made a contribution and this added to their perceptions of how they were valued within the community. Nevertheless, despite these positive experiences

in natural resource management decision-making in NSW, this interviewee believed that the principles of procedural justice and distributive justice and notions of need, equity and equality were generally *not* broadly discussed. To the contrary, he thought that the overall culture in NSW with respect to water allocation was "we will tell you what is going to happen".

Victoria: consultation, markets and infrastructure

As described above, water planning in Victoria was firmly based on consultation processes and, according to a Victorian government agency interviewee, water legislation "is designed to enforce some procedural fairness". In his perspective he was "strict" in implementing strong consultative processes which were significant for two key reasons. First because they were important in enabling decisions to outlast changes of government, and second to build "understanding and support with communities who actually elect these people". He made the point that water planning is not just based on empirical science—"none of this stuff is empirical, it is all about values"—and since values were subject to political influence the need for strong processes was paramount. For this reason he also believed that water markets, which put decisions at an individual level, were the most equitable and efficient way of dealing with water resource management. In his view the market enabled willing sellers and willing buyers to trade and the markets worked "in terms of equity brilliantly" from an individual perspective. However, from a local community perspective he believed that it was more important for individuals to make decisions for their families, and not to make "sub-optimal decisions for the benefit of the local community". While he recognized the stranded asset problem and the tension between individual decision-making and the impact on regional communities when water is sold out of a region, he believed that the markets allowed individuals to make the difficult decisions rather than "bureaucrats making decisions for individuals". As far as hardship and need, he believed that this should be managed through "hardship provisions rather than mucking around with water management". In terms of equity and equality and need he believed the best outcome would be for individuals to determine their own need: equality was achieved by people having the same choices available to them and equity could be achieved by individuals working out how to meet their own need.

This interviewee firmly believed that government action in Victoria to protect the environment should take the form of investment in infrastructure modernisation rather than through direct purchases of water on the water market. This demonstrated a government commitment to regional irrigation communities by showing that they are valued and that they have a future. He believed that governments buying water on the market only serves to "exacerbate the problem" because it does not provide confidence for the future. He emphasised the need for good processes in infrastructure upgrades, and these include the principles of procedural justice, so that local groups could work out what irrigation structures to close down or modernise and how incentives and decision-making should be structured. He cited as a successful example the Pyramid Boort reconfiguration in the north-west of the Victorian

irrigation area. This had taken two to three years of significant local engagement through a "bottom-up" process involving the regional Water Service Committee working with local people to design an upgrade plan. A key factor in gaining acceptance of the proposed changes had been a substantial information base that detailed the infrastructure asset condition, the cost of delivering water to that asset, and a continuing expenditure profile for each asset. By placing the information in the public domain and allowing people who were affected to be participants in the process, the information could be scrutinised and confidence in decisions based on that information could be gained.

Victoria: experience of procedural justice at work

The Pyramid Boort reconfiguration was described in some detail by an interviewee who was an employee of the Northern Victorian Irrigation Renewal Project (the organization responsible for the infrastructure upgrades of the Food Bowl Modernisation Project). This interviewee had a long experience of working with people in the irrigation communities, initially as a water bailiff and later in operations working for Goulburn-Murray Water. He attributed the success in the Pyramid Boort reconfiguration, first to a recognition of real need for change by the people in the area and, second, to strong management by the Water Service Committee. The recognition of need only came about when the information had been gathered and people gained a real understanding of the implications for the area. However, while the majority accepted the proposed changes, strong management was still needed to "push it through" due to the inherent "conservative" nature of farmers and concerns of a minority of irrigators.

From this earlier experience and knowledge of the irrigation areas, he thought that a major challenge for the Food Bowl Modernisation Project would be in working out equity issues in the reconfiguration. These were in several areas, for example, removal of channels from the irrigation backbone to individual farms would involve some irrigators being more adversely affected than others. Also, he believed that larger traditional irrigators had been cross-subsidising smaller farming operations, such as hobby farms, because large farms used larger volumes of water but all farms irrespective of size paid the same price per megalitre. Such equity issues would need to be addressed in the modernisation. This interviewee emphasised the importance of consultation and communication with individual irrigators and communities to the success of the project. In his experience many lessons had been learned from successes and failures in earlier irrigation upgrades. He regarded farmers as generally conservative and unwilling to accept rapid change and he recognized that people did need time and adequate consultation to explain how the change would affect their own operation.

However, he acknowledged that water allocations *would* change and "convincing irrigators at the end of the day that we have not impacted on them is going to be very, very hard". This interviewee also believed that water trading was "fairly equitable" because everybody was able

to trade their water. However, he thought that the impact of trading would be inequitable and because the impacts were different depending on the irrigation area. He believed that a new concept of targeted trading zones would be introduced whereby water would be allowed to be traded out of certain areas but not others. This would allow water to trade out of problematic areas, such as Pyramid Boort and Rochester, but would restrict trade out of the areas which had been modernised.

Challenges for institutions and communities

From this review of what has worked in NSW and Victoria it can be seen that there are many challenges to achieving fair and equitable solutions, but that such solutions are achievable. Interviewees from institutions such as government agencies had developed ways of working with people in irrigation communities, some on a trial and error basis and others as part of a thorough consultative process. Interviewees acknowledged that matters of equity were frequently central to resource allocation in general, which meant that farmers and communities needed information, opportunities for discussion and time to get used to the ideas being presented and develop a clear understanding of the situation. But, as a government agency interviewee suggested, some people would never get used to new ideas and change and were reluctant to even understand how allocation works. He characterised the irrigation industry as being 20% "movers and shakers", the next 40% being those "who understand and follow" and "there is 40% below that who have got no idea". In tackling the challenge to communicate with this range of irrigation farmers, this interviewee suggested that government agencies' ability to provide information was limited by their own staff numbers and expertise, but that even so, people still choose not to access information. This perspective was echoed by another government agency interviewee who thought that there was a skills shortage in government agencies of people who were able to engage with communities and communicate with them. He said unless people were directed to consult, they would not because "it is hard and tricky and they are likely to get shouted at". Thus he thought a consultation process that included communication as well as follow-up was vital, as well as being able to convince people of the need for change. In his opinion, the lack of government capacity was a key reason for the perceived lack of good consultation processes in NSW.

9.5   Summary

This chapter has explored a wide range of fairness and justice issues within water management. The chapter started by describing schemes that were perceived to be fair and equitable by those living within them and returned to this theme by reviewing other water allocation decisions that had been perceived as fair and acceptable, even though they were made under difficult conditions. Having established that fair and equitable systems and solutions *do* exist, the chapter then described the complexity of water management and how differing perspectives and worldviews within this complexity create tensions and divides that hinders

changes to the way the resource is shared and used. The task now is to answer the question, what does all this mean for justice and fairness in natural resource management? I start with a quotation from a water resource management professional, Warren Martin:

> Unless the [irrigation] industry proactively deals with knowledge continuity, the risks of the decisions [sic] makers not fully appreciating nor understanding the industry's lobbying attempts increase … [I]t is often said those closest to problems are best at working out solutions, because they are the people most likely to want practical and achievable answers, which then lead to solutions. Understandably, there is a likelihood that situations will eventuate, when proposals supported by well informed local community groups are modified to meet Government's broader equity or Basin-wide objectives. Such an outcome is often a source of conflict, leading to an impasse with Governments eventually exercising their statutory powers. Reduction of such tensions can be achieved by having greater transparency through stakeholders' involvement in policy formulation and implementation processes. To achieve that objective, initially stakeholders must have a reasonable awareness of the basis for the policies. (Martin, 2005:4)

I include this lengthy quotation here because it encapsulates the problems that I now address in this summary. The types of problems that Martin describes are inherent in *any* set of arrangements in which a natural resource is shared and for which change in those sharing arrangements is seen as necessary.

The first problem deals with *knowledge continuity* and maintaining an understanding of why arrangements are made. A key point here is that people on both sides need to have an *understanding* of why the initial arrangements were made, and this includes understanding the cultural drivers, such as nation-building, and why the arrangements need to change, for example, where there has been over-allocation of the resource resulting in environmental degradation. The second point is that people need to recognize that *adaptations* to arrangements take place and these are worked out by those closely involved in the natural resource sharing scheme. However, embedded in these adaptations is the third point, the pervasive *self-interest* conflict: perceived as a legitimate claim of livelihood protection by those involved in the scheme and seen as self-interest or "rent-seeking" by observers or those outside the natural resource management scheme that wish to effect change on the scheme. This self-interest dilemma is frequently seen to be the cause of social conflict when governments make decisions which they perceive to be in the general *public interest* that go beyond the boundaries of the natural resource management scheme under question. My point in including this quotation here is that while the problems themselves *are* recognized, the fact that they *all* have justice and fairness implications is *not* generally recognized. These types of natural resource sharing issues have emerged with regularity throughout this study and need to be dealt with before conclusions about fairness and justice in natural resource management can be made.

An important problem to deal with is the often-assumed explanation that self-interest is at the heart of conflict in the sharing of natural resources. This study has clearly shown that self-interest is but one of many motivations for seeking justice and that the notion of self-interest is itself complex and nuanced. The data analysis has shown that it is not only the distributive aspects of resource sharing that are important aspects of stakeholder claims on a resource: the way stakeholders are treated in the development and change of resource sharing arrangements is a significant and important aspect at the heart of resource conflicts. The analysis has shown that people will not accept a decision if they do not understand it: while responsibility for developing that understanding rests on both sides, there is a great responsibility on the part of governments to provide a detailed rationale for decisions that they make in the interests of the greater good which may have an adverse impact on a resource user. From this analysis, communities in both case studies perceived that they were denied many elements of interactional justice and procedural justice, such as recognition of standing and the provision of information. This perceived unjust treatment led to sustained opposition: the opposition was not only concerned with material self-interest from a resource perspective, it was also concerned with perceived democratic rights of inclusion in a process, respectful treatment, future stability and the ability to gain an understanding of decisions being made. Thus, this thesis dispels the notion that resource users are primarily concerned with material self-interest; rather, there is a complex interplay of contextual considerations and justice motivations that requires interactional justice and procedural justice in developing and adapting resource sharing arrangements. While it is recognized that governments have to make decisions—for the good of all society—about natural resource management in which losers may emerge, the way in which governments go about this is critical to achieving acceptance by those affected by the decision.

A second problem area to deal with is the strong influence and tight constraints that societal arrangements that were developed in an earlier era of cultural values and beliefs can have on later-day natural resource management. For example, the disregard for the natural flow of river systems within a culture of natural resource exploitation has been a constraint on the achievement of environmental equity in recent water reforms. What was perceived to be fair and equitable at one time, for example when the irrigation schemes were set up, may no longer be seen to be fair and equitable within a different dominant worldview. This is where societal myths and sharing mechanisms of one era may constrain the ability to devise allocations that are seen to be just and fair in a future era. For example, this chapter has shown that the introduction of water trading as a reform mechanism to address the over-allocation of water in the Murray–Darling Basin has *not* been seen to be successful in fairness and justice terms: to the contrary, it has generated its own set of perceived inequities, unintended consequences and environmental problems. Thus it is important in natural resource management to consider not only the economic, social and environmental aspects of resource sharing on an equal basis, but also to analyse the fairness and justice implications before the reform is initiated, if one area is not to

be seen to be dealt with unjustly. This calls for a theory of justice, the subject matter of the next and final chapter.

Chapter 10:   Justice as a means and an end

Protest sign, Shepparton, Victoria, December 2008

(Photo: Catherine Gross)

> The art of discriminating is essentially philosophical. One of the philosopher's main concerns is to try and refine his conceptions until he knows precisely what his ideas of, say, God, justice or education amount to, with the consequence that he is in a position to discriminate between God and a ghost, justice and equality, or education and training… And despite the recurrent myth that philosophy is impractical, a subject fit only for day-dreamers and idle theorists, this philosophical task is of crucial and enormous practical significance. (Barrow, 1982:2)

Through a transdisciplinary justice lens this thesis has focused on individual and community perspectives of fairness and justice in processes and outcomes. A general research aim has been to find out how people interpret and react to fairness and justice or the lack of fairness or justice, in environmental decision-making. Underlying this aim has been an additional goal of exploring what people might perceive as "fair and equitable solutions"—a phrase often used as an objective in government reports and public documents (Chapter 1). As irrigation communities within the Murray–Darling Basin are only too aware, this quest for fair and equitable solutions within the overall dilemma of water sharing seems to be never-ending. The long history of political disagreement between state and federal governments (Chapter 4) and the inability of upstream and downstream users to achieve what they perceive as fair and workable solutions presents a bleak picture for the future (Edwards, 2009; Owen, 2009). Nevertheless, there are some reasons for optimism, and, as the last chapter has shown, there are many practitioners in natural resource management who understand that a fair approach *can* achieve solutions that *are* perceived by stakeholders as fair and equitable. The purpose of this final chapter is to bring together the findings of this study and ultimately to show how theories and tools of justice can be put to use in the challenge to make fair and equitable solutions the norm, rather than the exception. Undoubtedly this is a lofty goal, but, as I propose in this chapter, justice can be a means as well as an end. For the sake of brevity and simplicity of argument, unless otherwise stated, when I talk about justice in this chapter, I take justice to include the elements of fairness. Further exploring and setting out the relationship between justice and fairness is a good future research topic (discussed below in Section 10.1).

This study started out with five research aims (Chapter 1). While one purpose of this chapter is to show how these aims have been addressed, the principal purpose is to present a synthesis of the research findings. Many of these key findings have already been presented in Chapters 7, 8 and 9: this chapter draws these findings together, showing the interconnections between findings and implications for natural resource management and justice research. The chapter is therefore organised around the key research findings, with each main section showing how specific aims of this thesis have been addressed. After a preliminary observation on the importance of distinguishing between constructs, the first section describes the importance of justice and fairness in decision-making processes and shows that people do distinguish between

these two concepts. The second section discusses the findings as they relate to injustice and its relation to justice: this theme is continued in the third section which discusses justice as an active process to prevent or remedy injustice. In the fourth section, the roles of procedural justice and interactional justice and how they contribute to outcome acceptance are discussed, with a particular focus on why these are important to people involved in decision-making processes. In the fifth section, which discusses how better outcomes can be achieved, a theory of justice is proposed which has four main components: a vision for the resource; a rationale for a particular decision; a discussion of outcomes in terms of needs, equity and equality; and recognition that procedural justice and interactional justice are integral to the notion of justice itself. The sixth section is concerned with justice as an analytical tool and the value that justice-based tools can bring to complex social problems both from a research perspective and as a contribution to natural resource management. The chapter concludes with reflections on the contribution made by this thesis in showing why justice is important and how justice theories can contribute to the development of clear perspectives in the quest for fair and equitable outcomes in natural resource management.

Justice research: distinguishing between constructs

The first general aim—to find out how people interpret and react to fairness, or the lack of fairness, in environmental decision-making—has been a strong connecting thread throughout the thesis. Emerging early in the adaptive research process and becoming intertwined with this thread has been a recurring characteristic of justice research: that research into justice and fairness is not clear-cut and that there are no clean lines that distinguish between these constructs. Rather, justice research is a messy, confusing and circular process. Threads, strands and connections between theories and data can appear, disappear and re-emerge. At the outset of this research the degree of complexity and circularity was yet to be discovered. For example, my aim in designing the justice lead-in question to the fieldwork was primarily to set the scene for the interviews and to find out how people think in general about the terms fairness and justice (Chapter 7). The question: "what do the terms fairness and justice mean to you and do you distinguish between them" turned out to deliver key insights. Little did I realise then that a *distinction* between fairness and justice would become an important research finding. But, as Barrow (1982) points out in the quotation at the start of this chapter, discriminating between notions, conceptions and ideas is a crucial activity. It is worth making the point here that one sets out at the start of an adaptive research study not knowing exactly where it will take one. Therefore, being attentive to assumed implications and nagging questions and being prepared to examine constructs and make distinctions are critically important aspects of this type of investigative research. The justice research domain contains many areas in which this type of "discrimination" is required: several such gaps and areas that would benefit from clarification were identified in Chapter 2, to which I return in this concluding chapter.

10.1   *Conceptions of justice and fairness: distinctions, similarities and context*

10.1.1   Justice and fairness: critical factors in decision-making contexts

The first key finding is that people's conceptions of the terms fairness and justice include a wide range of aspects of decision-making processes and outcomes, including interpersonal treatment, elements of the process and how the outcomes relate to what people perceive to be right or what they feel is their due (Chapter 7). The second key finding is that people do distinguish between fairness and justice. Conceptions of fairness and justice include both process and outcome but fairness is considered to be more concerned with the day-to-day interactions between individuals and organisations than justice, which is considered to be more concerned with the legal system and formally-derived outcomes. Conceptions of fairness also include a consideration of people's needs, fairness of opportunity (the "fair-go") and what is appropriate or right under the circumstances. Conceptions of justice include justice as a legal outcome derived from laws, the righting of perceived wrongs through the legal system (or a grievance process) and emphasis on the use of evidence and facts in determining an outcome.

Several important implications for justice research in natural resource management can be drawn from these findings. First, responding to one of the justice research 'nagging doubts' identified in Chapter 2, these conceptions confirm that people *do* relate and connect matters of fairness and justice directly to processes, outcomes and interpersonal treatment. While these conceptions of fairness and justice were purportedly in the abstract, clearly the current context influenced responses in some way (discussed further in this section). But the point here is that the nagging doubt identified in Chapter 2—whether notions of justice and fairness are central issues and directly relevant in people's perceptions of decision-making processes—can be dismissed from the perspective of this research. The doubts and questions raised by Greenberg (2001b) and Mikula (2005) are clearly important and I shared a similar concern at the outset to the research—was there a real connection or was this an assumed implication? However, the empirical research findings of people's conceptions of fairness and justice in this research dispel these doubts in this context: it is clear here that people do strongly connect both fairness and justice to both processes and outcomes in such social settings where natural resource management is an ongoing issue.

10.1.2   Conceptions and evaluations of justice and fairness: the importance of context

The second area in which there are important implications for justice research concerns the distinction between fairness and justice. As described above, interviewees' conceptions of fairness and justice in the abstract included areas where the two terms were similar or overlapping, and areas where they were distinct. This key research finding lends support for Finkel's (2001:44) fourth category "overlapping and separate" (Chapter 2). Before discussing

this distinction further, it is important to note another two related findings. The first is that interviewees used the terms "unfair" and "unjust" interchangeably in their *evaluation* of aspects of the social conflicts (Chapter 8 and Section 10.4 below). This shows that there is a difference between a *conception* of fairness or justice in the abstract *external* to a context and a justice or fairness *evaluation* of a specific issue *within* a context. The second related finding is that people's lived experience and their current context do have some degree of influence on how they conceptualise fairness and justice (Chapter 7). For example, a person is likely to include the legal system in their conception of justice or fairness if they have had direct experience of a legal outcome. In other words, how people conceptualise, evaluate and think about justice and fairness is influenced by prior and current contexts. Gaining an understanding of the context is therefore an important consideration in research that investigates matters of justice and fairness.

10.1.3   Justice and fairness: people do distinguish between the terms

Returning now to discuss the distinction between justice and fairness, these findings have shown that people do distinguish between these terms. But, as described in Chapter 2, justice researchers generally appear to have accepted these terms as interchangeable, both implicitly and explicitly (for example, Greenberg and Colquitt, 2005). While some empirical studies have explored different aspects of conceptions of fairness and unfairness (for example, Lupfer *et al.*, 2000), the actual distinction between conceptions of justice and conceptions of fairness appears to have escaped scrutiny until, perhaps, Finkel (2001:43) who pointed out the "confusion and inconsistency" in social scientists' use of these two terms (Chapter 2). Noting Greenberg's (2001b:212) observation (Chapter 2) that further research is required into the "conceptual meaning of justice", the findings described here suggest that determining where or under what conditions justice and fairness are similar and distinct is a fruitful area for future research. For example, from some interviewee comments, it could be that while fairness and justice hold similar meanings the main differences could be found in the conditions or types of situation in which these two terms are used. Such research could explore, for example, the degree of formality (informal or formal), the societal level (community or judiciary) and location (community hall or law court) in which substantive discussions of fairness or justice take place. Another area of research could be to explore whether a continuum between fairness and what Wissenburg (1999) describes as moral justice and legal justice (Chapter 2) can be identified.

10.2   Injustice as harm

10.2.1   The separability and priority of injustice

Turning now to how people react to a perceived lack of fairness or justice, while staying with the first research aim, the next area of empirical research findings concerns the clarity with which injustice emerged from these social conflicts (Chapter 7). In many cases a sense of urgency, anger and frustration came across strongly, as did a sense of disbelief and, in some cases, despair. The protest in Deniliquin was a call for justice from a community that had seen

an injustice take place. Likewise, the opposition led by the grassroots organisation Plug the Pipe was a response from communities that saw several injustices taking shape as government plans were implemented. Interviewees had different areas of concern, depending on their involvement and how each individual or community had been affected by elements of the process or the outcome. For example, some were more concerned about how they had been treated whereas others were more concerned about outcomes. Interviewees largely tended to use the terms unfair and unjust interchangeably in their overall evaluation (discussed below in Section 10.4) of aspects of the process and outcome; however, some interviewees were quite selective about the use of these terms to describe their reaction to certain aspects of the social conflict. Nevertheless, there were widespread perceptions of unfairness and injustice in interpersonal treatment, the processes in which decisions were made and the outcomes themselves. Justice as an ideal state was not under consideration: injustice was the issue. These findings support Simon's (1995) suggestion that injustice is psychologically ahead of justice and that there is a separability of justice and injustice (and fairness and unfairness) in which injustice is not merely the absence of justice.

10.2.2 Injustice as an event causing harm

Having recognized the separability of justice and injustice and that injustice is not the flipside of justice or a lack of justice, a second key finding in this area (Chapter 7) supports the notion that injustice is an event in itself (Wolgast, 1987). For example, interviewees in Victoria described injustice as causing harm or disadvantage; they saw injustice as being where the justice system has failed to produce a right outcome and that injustice is also concerned with unfair interpersonal treatment. The empirical findings show that injustice resulted in perceived harm in many different ways, not only in material harm, such as financial loss, but also in social harm to communities, such as erosion of confidence and well-being, and personal harm to individuals such as causing emotional distress. As Wolgast (1987) suggests, it is injustice that comes first and the call for justice is to remedy the perceived wrong. Injustice, then, as these empirical findings show, is an active event, and can result in perceived harm in many different ways. This finding, of injustice as *harm*, has important implications for justice research. For example, the notion of harm gives greater depth and richness to an explanation put forward by Lupfer *et al.* (2000) as to why perceived unfair events are more salient or prominent than fair events. Their explanation centres on what they describe as "losses" (such as a job loss) from unfair events being "more keenly felt" than "gains" (such as a pay rise) from fair events (Lupfer *et al.,*2000:412). The term "loss" in their rationale does not adequately convey the perceived *harm* done to the individual, or the interplay of different types of perceived harm at the material, social and personal levels from such an event as a job loss. These findings of perceived injustice as harm start to fill the justice research gap that Shapiro (2001) identified and where she argued for the victims of injustice to be asked about their experience of injustice.

10.3   Justice as an active process

10.3.1 Motivations for seeking justice: not just self-interest

A frequently asked justice research question is "why do people care about justice? ". This research shows that people affected by a decision can have multiple reasons for engagement in matters of justice and these vary according to their perspective on the issue and their material, social and personal interests. In Chapter 7, a theoretical categorisation of perceptions of injustice with corresponding proposed measures to restore justice and underlying justice motives was presented to show the range of different motivations for seeking justice and how these were connected to the specific perceived injustice. Motivations for seeking justice were not restricted to the often-cited self-interest motive: while the direct motive of livelihood protection and indirect motive of protection of community interests was evident, there were also other less tangible motives far removed from self-interest. These included justice as doing the right thing or as an end in itself; justice for the environment in terms of its own resource needs; justice as structural stability for the future well-being of communities; and justice as recognition of the value of commodity production as a contribution to society by affected communities. Further, the research found that individuals and communities can hold multiple motivations which interconnect and some can seem to be in opposition to each other. For example, higher water prices as a result of the Victorian pipeline would be in the self-interest of an irrigator who wishes to sell his or her water entitlement, but would be against the interests of the community due to the stranded assets problem (Chapter 4) which would make the whole community less viable. These findings are in accordance with Skitka's (2003) contingency model (Chapter 2) which recognizes that people do have different perspectives about fairness and justice depending on their own situation, and that understanding social context is a key consideration in justice research.

Thus the research shows that there are many reasons why people are interested in seeking justice: these can be on different levels (individual, community and societal) and there can be a complex interplay between these motivations and these levels. This also shows that motives for justice are not only complex but are deeply interrelated and require substantial disentangling. The resolution of conflicts is therefore made difficult because an action intended to resolve one set of justice concerns can have consequences or side-effects that unintentionally harm or leave others dissatisfied thereby creating new perceptions of injustice.

10.3.2 Justice as an active process to prevent or remedy perceived injustice

As the research findings have shown, the perceived injustice of one proposal can result in a series of injustices rippling out through the community, even extending as far as the school playground (Chapters 5 and 6). The combined project of the Victorian North South Pipeline and Food Bowl Modernisation Project is one such example where perceived injustices were

observed and experienced throughout all the communities affected by the joint proposal. This key finding, that perceived injustice can proliferate throughout communities and can be caused by proponents and opponents on both sides of an issue, has important implications for natural resource management. The first implication is a need for recognition by all stakeholders that there are many different perspectives, each of which is legitimate until evidence proves to the contrary. All groups that have an interest in a decision-making process and outcome need to be aware of these different perspectives: it is not only the instigator of the decision or process that can cause perceived injustice. As the findings show, perceived injustice can be dealt by opposition groups to those in the community who are neutral or who can see both sides of the issue. Opposition groups can create and deepen divisions within communities thereby exacerbating the effects of perceived injustice.

Therefore, the conception of justice as an "active process" to prevent or remedy perceived injustice suggested by Cahn (1949:13) has a major bearing in such situations where proposals are made and responses formulated. All participants must bear responsibility for preventing these ripples of injustice: one injustice does not justify another. Opposition groups as well as government agencies and industry organisations need to be reflexive about their own role and the impact of their actions on those in the larger community who may have distanced themselves or who make up the "silent majority" and may have doubts, lack information and would benefit from structured debate rather than confrontation. These findings have shown that perceived injustice can arise from any societal group: the key implication is that justice itself, as an *active process* of preventing or remedying injustice, should also be the responsibility of all those involved, whether proponents, opponents or even neutral bystanders.

The implications for natural resource management of the notion of justice as an active process extend to *all* levels of society. The active process of justice becomes the responsibility not only of decision-makers and policy analysts but also of food producers, food retailers and food consumers. These groups have choices in terms of how food is produced, what food is sold and what food is eaten. If the environment (consisting of natural resources) is really to be included in the scope of justice (Chapter 3) in its own right, then *injustice* to the environment in the form of environmental externalities caused by food production and other human activities must be taken into account. Each of these societal groups has a responsibility to become informed about the impact of their activities (such as food production), what choices are available to them and how they can reduce their impact on natural resources.

10.4   Towards outcome acceptance: interactional justice and procedural justice

The first three sections in this chapter have discussed findings and implications largely in relation to the first general aim of the thesis, understanding how people interpret and react to fairness and justice or the lack of fairness or justice in environmental decision-making. The

second aim is to investigate how these interpretations, reactions and perceptions contribute to people's *acceptance* of an outcome within the social context of a decision-making process. The analysis in Chapter 8 explored interviewee perceptions of interactional, procedural and distributive justice and how these contributed to their justice evaluations and acceptance or rejection of outcomes. However, as I pointed out at the start of this chapter, justice research is a messy and complex business. This section reflects this complexity for several reasons: people experience and evaluate justice in different ways; people experience a decision-making process in different ways (some are closely involved and some are bystanders); and some people have a strongly developed sense of justice, whereas others may make broad-brush generalisations on the basis of little information. Finally, the lines between justice constructs are blurred and some elements are interchangeable. Nevertheless, some important findings and implications emerge.

10.4.1 Overall justice evaluations: how people felt they were treated

An initial key finding was the high degree of importance that people attached to how they felt they were treated within a decision-making process (Chapter 8). People's assessment of how they were treated frequently included elements of all three justice constructs: interactional justice, procedural justice and distributive justice. In other words, in many cases people made an *overall justice evaluation* about how they had been treated and this was not restricted to elements of interpersonal treatments such as politeness or respect. But also, even though many interviewees provided such an overall justice evaluation, there were many who were very specific about what elements of interactional, procedural and distributive justice were most important to them in making their overall justice evaluation. These two findings about justice evaluations—that some made an overall evaluation whereas others were more specific in their evaluation of aspects of the process or outcome—have implications for both natural resource management and justice research, discussed below.

10.4.2 Proactive justice planning and reactive justice evaluations

From a justice research perspective there is support for the three-factor justice model and the separation of these three constructs (Chapters 2 and 8) because individual elements from all three constructs were identified in people's evaluations of justice (discussed below in this section). These findings, taken together with findings in Section 10.1, show that people differ in how they conceptualise fairness and justice in the abstract and how they evaluate fairness and justice in a social context. In their abstract conceptions people do distinguish between justice, fairness and injustice. But in a social-setting of perceived injustice these distinctions can become blurred within an overall evaluation. Therefore, from a justice research perspective these findings suggest that there is a worthwhile distinction to be made between *proactive* justice and fairness conceptions and assessments (prior to an event) and *reactive* justice and fairness evaluations (following an event) (see Section 10.1 above and Chapters 2 and 8). Further, maintaining the distinctions between the three constructs—interactional justice,

procedural justice, distributive justice—may have a greater importance in *proactive* justice planning or research than in evaluating assessments of justice after an event has taken place. An understanding of the importance of each construct and interactions between them is important in planning decision-making processes and how to engage with and consult those involved. This is important in increasing perceptions of fairness and acceptance of decisions, as discussed below.

10.4.3 Support for the three-factor justice model: the importance of interactional justice

This research provides support for the three-factor justice model in which interactional justice is separated from procedural justice as a distinct construct. The importance that people attach to how they perceive they are treated, or interactional justice, is a key research finding. But, importantly, this research has also provided some very clear insights into *why* this is so. For example, the finding that perceived interactional injustice can cause an individual some type of harm (Chapter 7 and section 10.2), such as emotional distress, is important in understanding individual and community reactions to a proposal. This finding of *perceived harm* provides a much greater insight into people's reactions to unfair events than more superficial explanations such as an "aversion to negative outcomes" provided by Lupfer *et al.* (2000). The tangible emotional distress described by interviewees in the two case studies in this research is evidence of this harm caused by perceived interactional injustice.

There is an important implication for natural resource management from this key finding. This is that interactional justice is critical to gaining people's acceptance of a decision concerning scarce natural resources. As many interviewees from the case studies suggested, they were more likely to accept a decision if they were treated with honesty and included— however minimally—in the decision-making process, even if the decision was unpalatable and not in their best interests. Interactional justice is particularly important in situations where a full consultation process is impractical due to time constraints, such as in times of drought. In the absence of procedural justice and distributive justice then interactional justice is vital. Thus the three-factor model of justice has importance in situations where there seems to be no foreseeable solution: on many occasions treating people with respect *does* increase outcome acceptance.

10.4.4 Why interactional justice and procedural justice are important

Having established that interactional justice should be considered a separate construct in its own right, this discussion now turns to the important consideration central to much justice research: why procedural justice and interactional justice are important (Chapters 2 and 8).First I return to the vignette outlined in Chapter 2 put forward by Lind and Tyler (1988) to explain why processes are important. In their vignette they argue that a woman who received a satisfactory outcome from a court case (it was dismissed without hearing) was nevertheless

"angry because the outcome she received was not arrived at using a procedure that met her standards of proper judicial process" (Lind and Tyler, 1988:2). The implication made here is that the woman was concerned about the standard of process *more* than the outcome she received. This is a useful illustration which raises the question about the relative importance of processes and outcomes. However, I think that Lind and Tyler could have developed their vignette further, given the information they already had about the woman. This information includes the following: she came to court "with photographs that she felt showed a sign warning her not to make an illegal turn was not clearly visible" (Lind and Tyler, 1988:2). From the findings in this research in which injustice is seen as an event that can cause harm, and which in turn triggers one or more motivations for justice, it could be argued that this woman was seeking justice as a result of a perceived injustice. While this is merely a conjecture based on this vignette, it does go to the *heart* of why procedural justice and interactional justice are important.

It is plausible that the woman felt that the sign was not clearly visible, which was why she had made an illegal turn: in her perception the fact that the sign was badly placed affecting its visibility to traffic was an injustice to drivers on that road. Thus, while she had made an illegal turn, this was because of an erroneous sign, and being charged with a traffic offence was therefore unjust. This could be a first motivation for seeking justice. But going further, if her court case was not heard by the judge (the case being dismissed) then her motivation for justice had not been satisfied because she had not been able to prove that the action of charging her with a violation had been an unjust act due to the sign being badly positioned. A further motive for justice involves the positioning of the sign: if this had not yet been corrected, other unsuspecting drivers were likely to make the same illegal turn and suffer a similar injustice. Thus a motive for justice could be correcting the placement of the sign and avoiding future injustices to others. These motivations for justice could be a more complete explanation for this woman's anger at *not* having her day in court to *explain* her account of the purported traffic violation than the explanation given by Lind and Tyler (1988). This vignette also shows that a person's evaluation of justice and motivations for seeking justice may not be immediately obvious to a researcher which is why a sympathetic research approach in which these can be teased out is necessary (Section 10.6).

My point in elaborating on this vignette is to show that procedural justice is not only important for process's sake (as Lind and Tyler imply): it is important because of the elements of process that it *provides* or *delivers* to participants. This is one of the key findings of the thesis, because it explains *why* a decision-making process is important to people involved in the process. Procedural justice delivers different things to different people depending on what they perceive to be important to them. This can be as simple as a technical report or as complex as a thorough involvement in the whole decision-making process. For example, to a Plug the Pipe spokesperson a fair decision-making process would have delivered a valid environmental

impact assessment of the combined North South pipeline and irrigation infrastructure projects. A fair decision-making process would have delivered responses to the questions raised by stakeholders and would have provided a forum for debate. In this person's opinion, had there been a full environmental impact assessment, genuine debate in the community and discussion of the technical concerns then there would have been an opportunity for the pipeline to have been shown as unviable in comparison to more localised water saving options in Melbourne. A fair decision-making process would have given the opposition group an avenue to express their concerns: instead they had to create their own platform. At the other end of the scale, a farmer wanted a fair decision-making process to provide him with specific details about the long-term impact of the pipeline construction process on his land. Specifically, he wanted to know how the contractors would deal with the topsoil and backfilling the pipe: his concern was that wet areas on his land would be damaged as a result of the heavy semi-trailer traffic carting pipes and rock for filling around the pipe. He also wanted specific information as to whether his mature wind-break trees would be replaced or not and whether he would be able to "have a say" in the design of the replacement fences and gates. These examples show how a decision-making process *delivers* different things to different people, depending on their circumstances and their level of interest.

Thus procedural justice and interactional justice are active processes, delivering tangible elements that people expect or feel they are entitled to, such as information, an opportunity to speak, or answers to questions. When either type of justice is absent, or an element is missing, then a different outcome can arise: a prior perceived injustice can remain unremedied or a new perceived injustice can be done, which can cause harm. The harm becomes an outcome for that person, whether it is material, social or personal. This perceived harm can then become a motive for seeking justice. Therefore, procedural justice and interactional justice are important because they deliver things that people feel they are entitled to, such as respect, information, or recognition of their right to be involved in a decision-making process. For example, involvement in a decision-making process indicates to those involved that they have standing, and that their expectation to be involved is legitimate. As seen in the findings from the Victoria pipeline study, denying such involvement results in a perceived injustice taking place, whereby people feel their needs or concerns are not considered important enough for them to be consulted about a decision and that they are not valued or given standing.

This explanation of why elements of a process are important—because they deliver what people feel they are entitled to—is an important implication for justice research because it helps explain the "fair process effect" (Chapter 2) through which people are more likely to accept outcomes following a fair decision-making process. Such an explanation is important in relation to justice research. For example, Greenberg (2001b:215) points out:

> [I]it remains unclear whether the effectiveness of procedural justice is based on one's hope that control over the processes is desired because it increases one's chances of receiving desired outcomes, or simply because it promotes one's acceptance of whatever outcomes result.

The research findings presented here offer rich and detailed insights into why people care about processes. First, the findings show that it is not so much *control* over the process (as Greenberg suggests above) that is important, but rather what elements of the process *deliver*. Second, the findings show that this interest in process is not only concerned with "desired outcomes" but is also concerned with what people feel they are entitled to from the process itself (such as voice, information) in order to achieve outcomes. Therefore, this explanation helps unpack the "desired outcomes" described by Greenberg above, into what is desired, or expected, from *both* process *and* outcome. If these expectations are not met, then perceived injustice can take place, which directly impacts people's acceptance of either the process or the outcome.

These findings from both case studies show tangible examples where interviewees connected elements of a fair process with their willingness to accept the outcome (Chapter 8). Conversely, where they perceived that the process was not fair, or was unjust, they were less likely to accept the outcome. The findings show a range of examples in which interviewees described being involved with the process, receiving information, having needs understood and issues responded to, and being treated with respect, which resulted in their acceptance of a decision even if there was some negative impact on them from the outcome. Therefore, it is clear from these findings why procedural justice and interactional justice are both important: they are both key factors in gaining acceptance of outcomes.

10.4.5 Two justice strands: construct distinctiveness and a sense of justice

Before concluding this section and the discussion of the second research aim—how people's perceptions of fairness and justice contribute to their acceptance of an outcome—I include a brief exploration of two additional strands of justice research. These relate to the research findings and are concerned with this second aim of outcome acceptance.

The first strand returns to construct distinctiveness and asks the question: are procedural justice and distributive justice really distinct? This question, touched on in Chapter 2 (Section 2.5) is relevant here because it arose in the discussion above on outcome acceptance. From the findings it can be seen that a perceived injustice arising from a lack of procedural justice takes the form of an event—or, in other words, an *outcome* within a process. For example, not being invited to participate or denying access to information can be perceived as an insult whereby the insult is the outcome, as seen in the Victoria pipeline study. In the same vein, forming a group of people to select a pipeline route from three alternatives is one event, or outcome, within an overall process in which the final outcome is the constructed pipeline. This can be perceived as

a good or bad outcome depending on the impartiality or otherwise of the members of the group and how they consult with the larger community to select the most appropriate route. These are examples where the lines or distinctions between processes and outcomes are blurred, or possibly, where one becomes the other, such as an element of a process becoming an outcome.

As discussed in Chapter 2, justice researchers have recognized not only the difficulty in understanding the relationships between these justice constructs and how they affect people's justice evaluations and subsequent behaviour, but also have questioned whether it is worthwhile continuing to explore these distinctions (for example, Lind, 2001b; Ambrose and Arnaud, 2005). Such justice researchers point to the notion of overall justice and how justice judgements are formed as being important in understanding people's reactions and behaviour in situations where fairness or justice is an issue. However, this thesis has also shown the value of *maintaining* distinctions between the constructs interactional justice, procedural justice and distributive justice in natural resource management where resource scarcity is an issue. The distinction between constructs is especially important in proactive planning (described above in this section) because it is recognized that not all decision-making processes can be conducted with full consultation. Therefore, the distinction between proactive planning, before an event, and reactive assessment, after an event, becomes important in justice research when justice researchers wish to apply their knowledge in social settings such as justice in natural resource management.

The second strand concerns the notion of a sense of justice. Interviewees talked about long-standing fairness and justice concerns such as not being valued or listened to: these emerged strongly in the case studies. Such concerns invoked a sense of justice, or a sense of injustice, in interviewees, who then responded in a variety of ways. These included short term responses, such as organising protests and the formation of the opposition group, Plug the Pipe, in Victoria, and longer term responses such as the formation of the Drought Leaders Forum in NSW (Chapters 5, 6 and 7). These findings concerning the concept of a sense of justice are important because they help explain why people will respond vigorously to a perceived injustice. From the research findings it is clear that some people have a strongly developed sense of justice or injustice, to the point where even if they are not directly affected by an outcome or decision, they will carry out sustained actions to oppose it. For example, a number of Plug the Pipe organisers felt so strongly about the injustice of the proposed pipeline that they were prepared to take on leadership positions in opposition to the proponents of the project, even though many expressed a desire to live a quiet life. Future research could examine this concept of a sense of justice in relation to Skitka's (2002) value protection model in which people are prepared to take a strong stand on moral grounds, and to whom matters of process may be less important than outcomes.

10.5   *Towards better outcomes: justice as a means and an end*

The previous section described the importance of interactional justice and procedural justice in gaining people's acceptance of an outcome: both types of justice are active processes through which the needs and expectations of people involved in a decision-making process can be met. This section now moves forward to consider the outcomes themselves: to discuss how better outcomes can be achieved, which is the third aim of the research.

10.5.1   Justice as a means and an end

However, before entering the discussion on outcomes and distributive justice, a first purpose of this section is to confirm that justice can be considered a means as well as an end, as the title of this chapter suggests. Here, the end is the outcome or decision, and the means is the process by which this outcome is achieved. Following Cahn (1949) this chapter has already established that justice is an active process that is important in preventing or remedying injustice (Section 10.3). Further, the two justice constructs, interactional justice and procedural justice, have also been shown to be active processes involved in delivering what people perceive to be essential components of a decision-making process, and are thereby important in gaining people's acceptance of outcomes. These two justice constructs have also been shown to be important in preventing perceived injustices from taking place. Thus, justice as an *active process* and therefore a *means* to an end can be firmly established in this thesis. I now turn to consider outcomes, or the ends, and how outcomes that are considered fair and equitable can be achieved.

10.5.2   Fair and equitable outcomes 1: these can be achieved but challenges exist

The third aim of the research is to find out how "better" outcomes can be achieved: this wording was chosen at the outset of the research because the empirical part of the research centres on conflict and outcomes that were seen to be unacceptable by those involved. Outcomes that are perceived as fair are rarely controversial: therefore it is the outcomes that are disputed that require attention and resolution (although fair outcomes also have a story to tell). As a first step, it is necessary to distinguish between "better" outcomes and "acceptable" outcomes: the former is a subjective evaluation and the latter, while perceived by those involved, is also an important aim of decision makers, such as governments. As described at the start of this chapter, an important goal in natural resource management is to achieve outcomes that can be perceived as fair and equitable by those concerned.

A key finding from this research is that interviewees, particularly those actively involved in decision-making, were aware of some concepts underlying procedural and distributive justice and pointed to many examples where they thought fair and equitable outcomes had been achieved through the use of these concepts. Such examples included where difficult decisions had been made in parts of irrigation areas that were perceived as unviable, such as in Pyramid

Boort in Victoria (Chapter 9). Another example provided was the way the Victorian government under the then Minister for Water John Thwaites had initiated and achieved water allocation changes under the Living Murray initiative involving the "unbundling" of water entitlements from land (Chapter 4). Interviewees with experience of such decision-making processes could describe *how* and *why* these outcomes were achieved. For example, two primary reasons for the success of the "unbundling" initiative were that the government started the process with a vision for what it wanted and used the Water Service Committees in Victoria as part of a thorough consultation process that allowed people to develop an understanding of the initiative. But interviewees were also aware of the considerable challenges that they had to overcome in achieving outcomes that were perceived as fair and equitable. Government agencies frequently lacked staff with the skills to engage with irrigation communities, and effective communication in which people could be convinced of the need for change was difficult. Further, the different types of irrigation farmer made the communication task much harder, with some being seen to be unwilling to engage in deepening their understanding of the water allocation challenge.

10.5.3 Fair and equitable outcomes 2: the principles of need, equity and equality

Findings from the empirical fieldwork in which the outcomes were perceived as unfair or unjust by many interviewees delivered critical insights into how better outcomes can be achieved (Chapter 8). Many interviewees actively discussed notions of need or equity or equality in relation to their perceptions of outcomes that they had experienced. Although interviewees for the most part were not familiar with the overall notion of these as being three key principles of distributive justice, many showed a basic understanding of one or more of these notions, either through their past experience or the current resource conflict. While in some cases interviewees were not entirely clear about the formal meaning of one of these notions, they nevertheless thought about sharing resources in ways that included these notions of need or equity or equality. For example, many interviewees in the NSW water carry-over study were specific in their view that a fair or just compensation for the water that had been taken away should be based on dollars per megalitre removed, in other words, on equity (Chapters 7 and 8). They also related their views of *why* an action was perceived to be unjust to these three notions, for example, the burden of cutbacks being spread inequitably across irrigators. Similarly, interviewees in Victoria, on both sides of the debate, discussed issues of equity and need in relation to the water being reallocated to Melbourne as a result of savings in the irrigation area. The complexity of the problem was not lost on many interviewees who struggled to understand the overall trade-off and the underlying logic. Many questioned the apparent "need" and lack of factual explanation or rationale.

In summary, these findings show that people do *think* in fragmented terms of the three principles of distributive justice, but generally lack a complete understanding of the three

principles and how they differ and relate to each other. Further, the findings show that where there are facts on which discussions can be based, people do develop justice-based arguments to show how better outcomes can be developed, such as in the NSW study. Conversely, where facts are perceived to be absent, such as in the Victoria study, then people have greater difficulty in formulating views about better outcomes but are clear about the specific deficiencies that they perceive within decision-making processes. These findings show that the three principles of need, equity and equality are *useful and practical* in helping people understand how different outcomes affect different stakeholders who have an interest in the resource, and therefore, through debate, they are useful in achieving better outcomes. The implication for natural resource management is that it would be of benefit if these three principles were widely known and used in decision-making processes to assist people, first in developing solutions and second in understanding the basis for the distribution or sharing. This is the first part of an argument that I now introduce as to why a theory of justice in natural resource management is required: to more broadly invoke the notions of need, equity and equality in general discussions and decisions concerning natural resource sharing and allocation.

10.5.4 Fair and equitable outcomes 3: towards a theory of justice

A third area of findings related to achieving fair and equitable outcomes concerns the nature of the resource itself and societal arrangements to manage the resource. As described in Chapter 9, several interviewees were particularly concerned with the way water in Australia was seen solely as an "economic good" and the impact of that policy on the future of irrigation farming. Water reforms which included the separation of water entitlements from land and the introduction of permanent water trading were widely perceived to have had serious consequences for irrigation communities, putting their futures in jeopardy. These reforms had eroded a largely stable set of arrangements which had evolved over many years as a result of state governments, irrigation industry associations and communities working together. Many talked about the water reforms as "flawed policies" which were causing stranded assets as water was traded out of irrigation areas. In other words, the vision of an established irrigation system operating in the public interest using water to grow food had been eroded by the new economic paradigm in which water should be used to its "highest value". Water had been considered more like a public good in a traditional irrigation system and the water reforms changed this to treating water as an economic good. While many interviewees recognized the need to return water to the environment—a key objective of the water reforms—they thought the shift to economic goals was already having a detrimental effect not only on communities, but on the environment itself (Chapter 9). In addition, this impact on farmers and the environment was seen as an injustice: that both farmers and the environment took the brunt of environmental externalities which should actually be attributed to the ultimate water user, the consumer.

These findings tap into the core of distributive justice, concerned with the distribution of resources (and burdens). While the National Water Initiative acknowledges that water is "part of Australia's natural capital" (NWC, 2004:1) it does not provide a vision as to how the resource is to be used other than an overall objective "that optimises economic, social and environmental outcomes" (NWC, 2004:3). Similarly, a 2006 vision statement from the National Water Commission does not provide a vision other than the "unifying national objective" of "cost-effective water use efficiency… throughout Australia" (National Water Commission, 2006: 1). Syme and Nancarrow (2008:243) point out the general lack of social vision concerning water use in Australia and argue for a "national debate" to understand what societal values should be used in determining water management criteria. They also point out the need for "fairness to add stability to the debate" (Syme and Nancarrow, 2008:244). In other words, there is recognition that government policy lacks a comprehensive vision that is underpinned by societal values about how water—a critical and scarce resource—should be used.

This brings the discussion to the second point in the argument for a theory of justice to be applied to natural resource management. Clearly, from the discussion above, a vision for how a resource is to be used and shared is required. As discussed in Chapter 2, theories of justice are important because they set out the principles and rationale for how resources or burdens are to be distributed and shared. A debate about water within a theory of justice would bring up important questions such as whether water is a public good, a private good or an economic good (or as one interviewee suggested a mixed good). A vision for how water should be used and what constitutes its highest value can be developed under a theory of justice. As to why a theory of justice is a necessity when considering competing interests for natural resources, I return here to the field of jurisprudence and the argument presented by the well-known legal philosopher H.L.A Hart some 50 years ago:

> very few social changes or laws are agreeable to or advance the welfare of all individuals alike…
>
> when a choice has been made between… competing alternatives, it may be defended… on the grounds that it was for the "public good"…
>
> it is… clear that a choice, made without prior consideration of the interests of all sections of the community would be open to criticism as… unjust…
>
> It would, however, be rescued from this imputation if the claims of all had been impartially considered… even though in the result the claims of one section was subordinated to those of others. (Hart, 1961: 166, 167)

The important point in Hart's argument is that he recognizes that there are competing interests and that not everyone will be satisfied with the decision. Nevertheless a just decision *can* be made on the basis of an impartial consideration of these interests: justice is then *seen* to be done (see Section 10.7 below). This is why a theory of justice is required. A theory of justice in which environmental needs as well as human needs are included in the scope of justice can

develop a vision and guide decision-making by using the principles of need, equity and equality. For example, a vision for water use is particularly important where the high variability of rainfall puts water decision-making frequently on the agenda: conditions are constantly changing, requiring ongoing adaptation and management. Every decision that is made— particularly under extreme or changing conditions—requires a rationale and full explanation, with sufficient information for those affected by the decision to understand the basis for the decision and to have their issues and concerns addressed. Such a theory of justice proposed here recognizes that justice itself is not only how resources (and burdens) are distributed but also that the notion of justice itself includes procedural justice and interactional justice: in other words, justice consists of all three justice constructs. Decision-making under a theory of justice requires a vision and a rationale for why a proposed resource distribution is a *just* distribution under that vision.

10.6   *Justice as an analysis tool*

This section addresses the remaining two aims of the research, both concerned with justice-based tools. The fourth aim is to develop a justice-based research approach to investigate issues and conflicts concerning the allocation of natural resources, and the fifth aim is to develop justice-based analytical tools for proactive planning. As both these aims are concerned with the development of justice-based tools, they are considered together in this section. This is because there are similarities between the tools and there is a commonality of use between research and analysis tools depending on the problem or issue being addressed.

10.6.1   Understanding complex social problems: a holistic adaptive research approach

In this thesis a novel justice-based research approach has been developed, in which complex social problems can be explored and from which a broad understanding of the tensions and perspectives of individuals and communities can be gained. The empirical findings that have emerged from this research approach show a richness and depth that have delivered significant insights not only into the two case studies but also into some long-standing and seemingly intractable social tensions concerning water use in Australia. This holistic and adaptive research approach has combined theories about justice with practical research findings to develop insights that could not be developed from either area in isolation.

There are several characteristics of this research approach that have contributed to its utility and value as a research tool. First, is the adaptive nature of the research approach, in which methods are adapted as findings emerge, and in which the empirical findings engage with theoretical justice concepts to form new connections and insights into problems. Second is the use of frameworks to set the boundaries of the research, to organise the empirical fieldwork and its investigation of the social problem, and to organise the findings in relation to justice theories. Such frameworks can be used as analytical tools in natural resource management to gain an

understanding of the material, social and personal impacts of proposals or decisions, to understand why people are motivated to protest against these and to work out how better outcomes can be achieved. Frameworks can also be used to depict shifting worldviews resulting from dominant cultures and societal arrangements as part of a justice-based process to provide a rationale and explain why solutions from the past are no longer applicable in the present.

A third characteristic is the sympathetic interviewing technique through which a deep understanding of an interviewee's perspectives, feelings and concerns can be gained. By framing the interview in terms of fairness and justice, the underlying motivations for people's concerns and behaviour can be understood to a greater degree than if the discussion was based purely on the pros and cons of the proposed outcome or decision. Thus a justice and fairness based approach that is softer and more explanation-oriented yields greater insights into people's motivations and behaviour than a more objective, fact-based research approach. Fourth is the understanding of the value of context, current and past, and the importance of context in understanding the wide range of different perspectives that can be held about a social problem. Finally, the fifth characteristic is the adoption of a transdisciplinary approach that opens up diverse sources of information from multiple disciplines and which offers a wealth of knowledge, theories and ideas to use in analysing, understanding and providing solutions for societal problems.

10.7   Reflections: justice must be done and must be seen to be done

The idea of justice is at once concrete but slippery; sharp but vague; clear but opaque. It is a universal concept but at the same time manifestations of justice are dependent on their current context. Justice is hard to define but we surely know when an injustice has taken place. This thesis has traversed the theoretical and empirical ground between fairness, justice and injustice and has provided many insights into how these concepts are perceived in natural resource management decision-making processes by both observers and participants. A final task here is to summarise the contribution of this research to natural resource management and to answer the questions: why is justice important and why is a theory of justice important?

10.7.1 In a nutshell 1: why is justice important?

The reason why justice is important is that it is an active process preventing injustice and remedying injustice. The active process of justice also delivers tangible things that people expect during the process, including information, understanding, respect, and avenues for engagement and information flow. As this thesis has shown, decision-making in natural resource management affects not only those individuals with a direct interest in the resource but also individuals and entire communities with direct and indirect interests. The thesis has also shown the complex interplay of a range of material, social and personal impacts of social

conflict. In such conflicts perceived injustice takes place, and subsequent activities can create ripples of injustice throughout communities. This is why justice is important: it is an active process to prevent injustice from taking place and to remedy those perceived injustices that do take place. Injustice can be instigated by decision-makers (by not invoking just procedures), opposition groups (through their actions that can divide communities) and observers (through their derisory comments about participants). Interactional justice and procedural justice are therefore important because they confer legitimacy—seen by all—on the process, on the stakeholders, and on the decision-makers. They not only confer legitimacy: they render the decision-making process a *just* process, as H.L.A Hart pointed out in the quotation above (Section 10.5).

Where interactional justice is absent, and there is no recognition of standing, then a perceived injustice is done to those directly affected. This is where the latter part of the phrase "justice must be done and must be seen to be done" becomes important. Observers may generally take one of three positions in relation to those to whom the perceived injustice has been done: have empathy and show support; be neutral about it; or take a derogatory stance on the issue in which they regard self-interest as the primary motivation. Where interactional and procedural justice is present and those with an interest are recognized as having standing and are included in a decision-making process, then perceptions of injustice are reduced. Even though there still may be those who are opposed to a decision, there is likely to be *less* empathy and support from those not directly affected, because they will have *seen* justice to be done, giving them confidence in the decision-making process. Similarly, opportunities for derogatory explanations, such as NIMBYism, are reduced, first, because there is less opposition and second, those with a legitimate interest in the resource are seen to be treated respectfully by decision-makers, rather than disrespectfully. Justice becomes the responsibility of everyone involved, including decision-makers, participants and observers. Even people who think that they are not involved have a justice responsibility: to inform themselves about the issue and to play their part in making sure that justice is done and injustice is prevented.

10.7.2 In a nutshell 2: why is a theory of justice important?

This thesis has put forward the argument that decision-making in natural resource management should be carried out within an overall theory of justice in which a social vision for the resource is developed. We have seen in Chapter 9 how a shifting set of worldviews, delivered through frequently misguided government policy, has damaged and degraded not only the natural resource base but has also frequently impeded the further development of good working relationships between communities and institutions. This is not just a modern phenomenon: since the start of irrigation in Australia, policies have been developed under a single dominant imperative starting with the notion of "closer settlement" utilising small irrigation blocks and now operating under the dominant paradigm of "water to the highest

value". Under a theory of justice a vision can be developed that is not dominated by the economic paradigm but includes environmental and social aspects of resource sharing on an equal basis. Under a theory of justice all three components of justice (interactional, procedural and distributive) are invoked in decision-making processes: this becomes the norm, rather than the exception. The three key principles of distributive justice—need, equity and equality—are broadly understood and considered in resource sharing. A theory of justice is important because decision-making under a theory of justice can result in fair and equitable outcomes as well as achieve the "social co-operation" that Rawls (1971:4) described—another important goal of a theory of justice.

10.7.3 In a nutshell 3: what does this mean for natural resource management?

Returning now to natural resource management: what are the implications of these research findings for decision-makers and communities? This thesis has clearly shown why justice is important and why natural resource management should be carried out under a theory of justice. Justice is not an obscure abstraction or intangible theoretical idea: we have seen that justice is a means and an end and we understand why justice must be done and must be seen to be done. So now it is time to walk the talk, so to speak. If governments are *serious* about achieving fair and equitable outcomes in natural resource management, then governments need to operate within a theory of justice. This thesis has shown why it is no longer acceptable for governments to develop outcomes that are seen to be *unjust*: we *know* how to achieve just outcomes. For example, it is not acceptable to exclude interactional justice from decision-making on the purported basis that "it won't make much difference" or because a tough decision "needs to be made anyway". These are not acceptable explanations in a system in which the stated objectives are "fairness and equity". An outcome in which the interests of those involved have been considered and in which there has been interactional justice and procedural justice in developing the outcome can be seen as a *just* outcome. Clearly not everyone is going to agree with every outcome: but everyone does have a responsibility for justice, as this thesis has shown. The apparently intractable problems of natural resource sharing can be made more tractable and outcomes can be developed that are acceptable to those involved through interactional justice, procedural justice and distributive justice. Governments must take the first step in setting up just decision-making processes: this provides the environment in which communities *can* work in social co-operation to agree on those tough decisions.

10.7.4 Water under the bridge and a clear perspective for the future

The phrase "water under the bridge" implies that a one-time troubling issue is now in the past, is no longer important or relevant and can be let go and forgotten. But just as water that has flowed under the bridge returns at some point in the hydrological cycle, so do some of the myths that go with it (Chapter 9). An ever-present and largely unrecognized major challenge for governments and societies is to learn from these lessons of the past, recall them in current

debates and activities, and maintain a clear perspective on the value that past worldviews, beliefs, perspectives, approaches and mistakes can bring to solving intractable long-lasting problems. Human culture has the capacity to learn from the past: so why doesn't it appear to have absorbed these lessons in some situations? This research has shown that people question why large-scale infrastructure projects such as pipelines and desalination plants are chosen as solutions to water shortage when less environmentally harmful alternatives exist. Similarly, people question why the economic paradigm of water to the "highest value" is still dominant when it is known that this has negative social and environmental consequences. These questions are centred, in part, on fundamental resource distribution dilemmas, the domain of justice.

So, where to next? One challenge is for researchers and practitioners to work together by acknowledging that justice is not just an academic topic or an unattainable ideal. This research has shown that justice—as a means and an end—*can* be practically applied to such problems of resource allocation. Theories of justice and the practical experience of fairness, justice and injustice can be used to create tools and develop solutions that can be perceived as fair and equitable. As this research has shown, questions of justice and fairness are deeply connected to people's values and beliefs and fundamental to a community's psyche. Finally, it is interesting to note the comments of E. A. Lind concerning the perennial question why people are concerned about justice:

> I suspect that in the answer to the "why justice" question is a story about what people want from their work lives and what they fear, a story about how organizations and the people who populate them function and think, a story that could give us a remarkable perspective on issues far beyond justice itself (Lind, 2001b:225)

I propose that this thesis has given precisely that perspective for the communities which gave this research its richness and life-force. That justice can be a means as well as an end offers such communities a way for their voices to be heard, their stories to be told and their futures to be considered within the big picture of natural resource management.

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Appendix A: Consent form

The consent form is reproduced on the following page.

The Fenner School of Environment and Society
College of Science
Building 48

CONSENT FORM

I……………………………..…………………(please print) agree to be interviewed by Catherine Gross regarding my opinions and observations as part of her PhD research about the perceived fairness of decision-making processes with respect to water allocation and natural resource management.

I have read the information sheet and understand the following information:-

1. Catherine Gross is a PhD scholar at The Australian National University.

2. The interviews will contribute to research about community perspectives of fairness regarding the process of making decisions.

3. Catherine's role in the research is that of an observer. Catherine hopes that the research will be of help to communities and institutions involved in natural resource decision-making in the future.

4. Participation in the project is entirely voluntary and interviewees can withdraw at any time without any negative consequences.

5. Information obtained during the interviews may be used in Catherine Gross's PhD research thesis and in related publications.

6. Confidentiality for interviewees will be protected by the absence of any identifying information in all drafts and publications.

7. All raw data from the interviews, including transcripts, will be securely stored and accessible in either hard copy or electronic form by Catherine Gross only, and will not be shown to anyone else. Under certain circumstances, the researcher may be required to release information for legal reasons.

If you have any queries or concerns about the research, you can contact Catherine Gross (contact details at top of letter) or the ANU Ethics Committee or Catherine Gross's supervisor at the following addresses:

The Secretary
Human Research Ethics Committee

Chancelry 10B
The Australian National University
ACT 0200
T: 02 6125 7945
F: 02 6125 4807
Email: Human.Ethics.Officer@anu.edu.au

Mr David Dumaresq
School of Resources, Environment & Society

The Australian National University
ACT 0200
T: 02 6125 0349
F: 02 6125 0746
Email: David.Dumaresq@anu.edu.au

………………………………………………………..   …………………………

 Signature   Date

THANK YOU FOR YOUR ASSISTANCE

Appendix B: Information sheet on research

The information sheet that was given to interviewees is reproduced on the following page.

Information sheet on research

Making fair decisions
Applying justice frameworks to environmental decision-making

Personal Details

Catherine Gross, PhD Scholar, The Fenner School of Environment and Society, The Australian National University, Canberra ACT 0200

E-mail: Catherine.gross@anu.edu.au; Phone: 02 6125 4468; Mobile: 0438 994 328

Administration

This research is being carried out by Catherine Gross, from the Fenner School of Environment and Society at The Australian National University. The research will be published as a PhD thesis in 2009, and in academic journals. Funding is provided by Land & Water Australia.

The research

The research aims to find out how people interpret and react to perceived fairness or the lack of fairness in natural resource management and environmental decision-making. The case study involves people affected by the recent Victorian state government decisions regarding the proposed North South Pipeline and Food Bowl Modernisation Project. The aim is to discover the full range of perspectives.

My role in the research is that of an observer. I will not express my views on this issue to interviewees. My aim is for my research to add to the general body of knowledge concerning natural resource decision-making and for the research, when it is published in the future, to be helpful to communities and institutions involved in the process of decision-making.

Participation in the research

I would like to spend between an hour and an hour and a half asking you some questions in a semi-structured format. Questions will be about:

- Your occupation and connection with the general area
- The words "fairness" and "justice"
- The North South pipeline / Food Bowl Modernisation Project -- your awareness and involvement
- Your views on fairness and justice in relation to this issue
- Your level of interest in the North South pipeline/ Food Bowl Modernisation Project and reasons for interest
- Your perceptions of the procedural elements of the issue
- Your evaluation of the fairness of the overall decision-making process
- Your views on what could lead to an acceptable outcome

Participation is entirely voluntary and interviewees can withdraw at any time.

Confidentiality

Confidentiality is very important and I respect the need for confidentiality. For this reason I will not include any names or information which could identify you or your statements in any publication. Notes and transcripts will be kept under lock and key in my possession.

Thank you for your participation.

Catherine Gross
October 2008.

Appendix C: Semi-structured interview questions

The semi-structured interview questions are reproduced on the following three pages.

Semi-structured questions for the NSW case study

Introduction to the research
I would like to ask you some questions for my PhD research which is about making fair decisions. A brief introduction to this is given in the document titled "Information sheet on research" which is for you to keep. Would you please sign the consent form to indicate that you understand what the research is about, how you are being asked to participate, how confidentiality will be assured and to indicate your agreement to be interviewed.

1 Background information and stakeholder grouping
1. What is your occupation?
2. How long have you been connected with this general area?
3. Do you have family members that are connected with this area?
4. How would you describe where you fit into the community?
5. Is there a group, connected with water, which you would consider yourself as belonging to? (e.g. irrigation farmer, water user for commercial purposes; water user for private purposes; householder or general water user; irrigator; government employee, conservationist, member of industry association, business owner, etc)? There may be several groups that you identify with.

2 The words "Fairness" and "Justice"
(The two words are written on cards displayed in front of the interviewee)
- Please tell me what each of these words means to you?
- Do you distinguish between them, and if so, how?

3 NSW carry-over water issue -- awareness and involvement
- How well informed do you feel you are now about the details of the recent reductions to the carry-over water allocation?
- How did you become aware of the issue?
- For you, what is the heart of the protest held in Deniliquin on December 15, 2006?
- Did you or members of your family attend the protest?
- If so, what were your reasons for attending the protest?

4 Level of interest in the carry-over water issue and reasons for interest
Exploring material, social or personal interest in this social context
Note that people may have interests in all three groupings although it could be that one is of greater perceived importance.
- I would like to understand how the carry-over water issue impacts you. The ways in which this issue could touch you are in three main areas. These are material, for example, affecting your livelihood or well being; social, that is, affecting the social structure of your community and personal, affecting one of your core beliefs or values.
- Is there something else you would like to say?

5 Water allocation and carry-over water
- Could you describe to me your understanding of how water allocation changes are made?
- Would you tell me the source of this information?
- How satisfactory have you found this information?
- Are there any improvements to this information that you could suggest?

6 The carry-over water issue: description of the process and agency perspectives on the community reaction

6.1 Communication and notification
- Were you notified of the changes to the carry-over water allocation? If so, how were you notified?
- How appropriate was this method?

6.2 Timeliness of notification
- Was the timing of the notification satisfactory?

6.3 Information provision
- Do you think adequate information was provided about the changes to the carry-over water and how decisions regarding these changes were made?
- Could you comment on the information provided.

6.4 Opportunity for participation and for your voice to be heard
- Were you given any opportunity to raise your concerns regarding the carry-over water changes or discuss the issue with decision-makers?
- Please describe how you have or have not been able to participate (for example, meetings invited to/attended, information received, letters or submissions sent, protest attended etc.)
- How well do you think that your voice has been heard?

6.5 Issues
- Do you feel that your issues and concerns have been noted and will be addressed?
- Have you had a satisfactory response to your issues and concerns, or do you feel confident that these will be addressed?

6.6 Respect
- Do you feel that you have been treated with respect during this time?

6.7 Trust in the decision-making authority
- Has your trust in the decision-making authority changed as a result of this issue?

7 Carry-over water issue: evaluation of the overall management of the issue

Stepping back from the individual elements, this section relates to fairness perceptions of the overall process
- Given all the questions that I've asked you about how the issue was managed are you left with a feeling that it was fair or unfair and what is it that leads you to that assessment?
- I'd like to go back to the connection between fairness and justice. Do you have any general comments about fairness or justice in relation to the issue of carry-over water?

8 Acceptability of outcome

Now that we've evaluated the overall process, I'd like to explore your views on what would have increased the acceptability of the outcome
- Do you think that the outcome could have been made more acceptable to the community in any way?
- Could you tell me more about this?

Semi-structured questions for the Victoria case study

1. What is your occupation? What is your position in the community? What is your interest in water use (i.e. are you an irrigator, urban user, interested in water for the environment, government employee etc.)?

2. Please describe what the terms "fairness", "justice" and "injustice" mean to you, and whether you distinguish between these terms.

3. What is your attitude to the pipeline and what is your involvement, if any, in the dispute?

4. For you, what is the heart of the dispute about the proposed pipeline?

5. Would you say that people will gain and people will lose from this issue? (winners and losers) If so, who will they be? How will they gain and how will they lose?

6. Please describe your views about the dispute in terms of justice or injustice, and fairness or unfairness. Please explain why you hold these views.

7. Please describe how you are affected, either now or potentially, by the proposed pipeline. This can be in any or all of three areas: materially, socially and personally. For you, which, if any, is the most important area?

8. Can you describe the elements of any consultation process that you experienced (for example, public meetings, contact by phone etc.)?

9. Do you think the information you received during this process was adequate? What other information would have been useful?

10. Do you think the consultation process enabled open and active discussion amongst the stakeholder groups? Do you feel that your voice has been heard and acted upon?

11. How do you feel that you have been treated during this process?

12. Do you think the consultation process that you experienced was adequate? Do you think it was a fair process? What is the main reason that leads you to this conclusion?

13. Do you think the process or outcome should be changed from your perspective? If so, how?