

Stakeholder perceptions of water reform in two catchments in Queensland Australia

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Abstract

This paper describes ways towards agreement on contentious water allocation issues by examining the interests and values of water users about water sharing. The research aims to improve the capacity of irrigators to participate in water resource planning and allocation decision processes. It will assist government and other stakeholders to develop consultation processes that address issues of equity, fairness, productivity, private and 'public' good in a positive and timely fashion.

The process commenced with research applied to water reform decision making processes in the Lockyer valley and the lower Balonne catchment in Queensland Australia. The photovoice interview technique has been used to uncover the values and interests of stakeholders as they adjust to the challenges of water reform. Without addressing these underlying values and interests it is unlikely that decisions reached will be accepted or suitable in the long term.

We then incorporated this information into a decision making framework which focused on parties achieving mutual understanding of one another's interests; seeking of common ground; support with non-aligned information; identification of options; and taking a mutual gains and consensus-building approach. This paper mainly reports on findings about the Lockyer where the researcher was able to be more involved with the decision-making process. Besides the obvious desire to obtain greater reliability in irrigation water, landowners there shared a desire to manage their own access to water rather than risk solutions being imposed on them by government. Government agencies and other stakeholders were concerned with the need to balance production with environmental sustainability and how to meet the Government water reform agenda. The paper suggests that water reform decision making processes can be greatly enhanced by integrating conflict management techniques and skills into consultation about water planning. .

Introduction

Dealing with Australia's water reform agenda is a major challenge for irrigators and governments alike. The Council of Australian Governments' Water Reform Agenda in 1996 and Australia's National Water Initiative (NWI) (Commonwealth of Australia 2004) aim to ensure the return of all currently over-allocated or overused systems to environmentally-sustainable levels of extraction, to use community partnerships to promote transparency, and ensure information is available for users to "increase public

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acceptance”. State Governments are responsible for developing the mechanisms to implement the agenda.

In Queensland the two stage water planning process under the Water Act 2000 is intended to achieve these reforms:

- 1) a Water Resource Plan (WRP) with a 10 year life which determines water availability, a framework for sustainably taking water and establishing water allocations, and for reversing where practicable degradation that has occurred in natural ecosystems;
- 2) a Resource Operation Plan (ROP), based on outcomes of the WRP, that specifies individual entitlements.

In regions where the resource is over-allocated or over-utilised, there is understandably concern by irrigators at the implications of possible restrictions on extraction, and concern by government about the possibility and practicality of reversing degradation. Physical stress on water resources combined with rapid institutional change increases the likelihood and intensity of conflict (Wolf, Yoffe & Giordano 2002). There is general agreement in the conflict resolution literature that unless underlying values and interests of parties are understood there is little likelihood of reaching a mutually satisfactory outcome in a decision-making process (Cornelius 1998; Fisher & Ury 1991; Susskind 1999). Conflict resolution techniques are like a life raft when values collide (Cornelius 1998).

This paper outlines the outcomes of a research project which identified differing interests and values of stakeholders about water allocation and use as the two case study regions – the Lockyer catchment in Southeast Queensland and the Lower Balonne in southern Queensland and northern New South Wales – proceed with different stages of water resource planning. The two case study areas were chosen because they are areas characterised by:

- stress on water resources primarily from agricultural development;
- institutional challenges as a result of COAG water reforms, water resource planning, and the need for water management; and
- a history of conflict about water.

It illustrates in one case how conflict resolution techniques contributed to improved shared understandings and building to more accepted outcomes. In the other case, the lack of recognition of underlying values and interests was a major contributor to a less-than-desirable process. This will report mainly on the former, - the Lockyer catchment.

The Lockyer Catchment

A discussion paper, *Declaration of the Whole Lockyer Valley as a Subartesian Area* (Queensland Government Natural Resources and Mines 2005) identified the Lockyer Valley as a stressed groundwater area. As irrigation has intensified over the years to

meet market demands for a year-round supply of vegetables and fruit, surface water use for irrigation purposes has been increasingly supplemented by groundwater. Additional pressure on the groundwater resource has also increased due to drought conditions. The level of unsustainable use has led to declining underground water levels in alluvial aquifers and reduced pumping rates. As a result of significant connectivity between surface water and underground water in this area, surface water flows have been significantly impacted by groundwater extraction to the point where there are no more than a few days of flow a year. It is estimated that from one-third to one-half of productive land has been temporarily withdrawn from cultivation as a result of lack of sufficient water for irrigation.

The Lockyer can broadly be divided into 3 areas: the Upper Lockyer where there is no regulation of water use; the Central Lockyer which includes an existing regulated area where both surface water and groundwater are licensed and metered, as well as a portion of farms which are not regulated; and the Lower Lockyer which includes farms which are licensed due to their access to a surface water supply scheme. The situation in the Central and Lower Lockyer is further complicated by poorly functioning water supply infrastructure, i.e. dams which contain almost no water, partly due to the depleted aquifers and interconnectivity between surface and groundwater. At most only one-third of Lockyer irrigators are regulated.

To prevent deterioration of groundwater resources, a moratorium on further groundwater bore development was instituted in 2005. The Queensland state government, in implementing the NWI, released the Moreton Draft Water Resource Plan (Draft Plan) in July 2006 to, among other things:

- define availability of water in the plan area (which includes the Lockyer catchment);
- provide a framework for sustainably managing water and the taking of water
- provide a framework for establishing water allocations; and
- provide a framework for reversing, where practicable, degradation that has occurred in natural ecosystems (Queensland Government Natural Resources Mines and Water 2006).

A local irrigators' association - the Lockyer Water Users Forum (LWUF) - was formed in 2002 to provide a united voice for 18 irrigator groups in the Valley. The LWUF has been negotiating with the Queensland government to allow a 'self-management' approach to apply across the whole Lockyer. However the strategies in the Draft Plan mentioned above include: conjunctive volumetric allocation of surface and groundwater for existing licence holders within the Central Lockyer, and consideration of a similar system applying to the Lower Lockyer. The remaining area is to be managed "under a management framework to be developed in consultation with irrigators", presumably referring to the LWUF's self-management concept.

A negotiation process is proceeding between LWUF and the Queensland government Department of natural Resources Mines and Water with the assistance of the Regional

Natural Resource Management body, SEQ Catchments³. As a component of this research project, one of the authors (Baldwin) is also contributing to the negotiations by developing an understanding of the parties' perspectives on water and building in parties' values and interests to the decision-making process - with the expectation that this will lead to more successful outcomes.

Values and Interests about Water Allocation in the Lockyer

In the first stage of the methodology, Baldwin identified underlying values and interests in relation to water allocation and use among 33 irrigators and non-irrigators (government, landcare, and local residents) in the Lockyer Valley through the photovoice interview method. Participants were provided with a disposable camera and asked to take photos related to water according to certain instructions. Subsequent semi-structured interviews were based around the individual's photos, eliciting provocative and meaningful data. Content analysis of both verbal transcripts and photographs were used to identify basic interests and values about water and water reform – including allocation and use issues, process and relationship elements.

Through analysis of interviews, a wide range of values, needs, and concerns of the stakeholders were identified. This paper focuses on three areas of values, needs and concerns identified by study participants in the Lockyer: environmental values in relation to sustainable water use; public and private interest; and economic well-being and control over one's life in response to regulation.

a) Environmental Values

Sustainable use of water is a major thrust of water reform agenda in Australia. A series of questions explored interests and concerns about sustainable use of water to gain an understanding of stakeholders' values about the water environment.

Views differed among stakeholders. A number of irrigators expressed clear discomfort with the concept of environmental sustainability. Some interpreted it as efficient use of water for irrigation (eg by water scheduling), others referring to wasting water (eg through evaporation). Collectively as a group, irrigators' responses covered 'triple bottom line' aspects of sustainability – social, economic, and environmental. They referred to sustainability as having a sound regional economy that would support a stable community. This tends to reflect their 'integrated' lifestyle where they live and work within a family and small community environment. Non-irrigators (government agencies, and non-government bodies with roles in water management) recognised both production and environmental needs, with the challenge of meeting environmental requirements highlighted.

³ Australia has a system of 'regional bodies' created under the Natural Heritage Trust 2 and National Action Plan for Salinity and Water Quality. These are essentially stakeholder-based bodies comprised of representatives of a range of relevant non-government sectors and local government, but not state or federal government (which accredit them). They are charged with and resourced to contribute to natural resource planning and management within their respective regions usually based on catchments or basins.

Both irrigators and non-irrigators identified overuse or mismanagement of water as being the main threat to water sustainability, with climate and lack of rainfall the second greatest threat. Irrigators, particularly those in the Central and Lower Lockyer, also thought that water reforms and government regulation were threatening to water sustainability. Thus it was clear that a barrier to sustainable use was a concern about regulation.

As another indicator of environmental values, a majority of non-irrigators but only 50% of irrigators thought that farmers should be allocated water only if water was being used efficiently on their property.

b) Public Benefit vs Private Interest

Perspectives on public versus private interest were revealed by questions about downstream obligations and what water meant to interviewees. For example, a majority of both irrigators and non-irrigators indicated that those upstream have a moral obligation to look after the interests of those downstream, although there was less support for this concept in the Upper Lockyer. In this area irrigators may feel that they have more to lose if regulation restricts their take because of the needs of those downstream. The minority view expressed by one irrigator was illustrated by comments about why would he allow a neighbour to have a profit at his expense and ‘is this a communist regime?’

In discussing what water meant to them, most irrigators referred to water as providing their livelihood and for family life (ie private interests) with a few also referring to the public benefits of water in providing a secure source of food for the national and regional community.



“A good crop means livelihood, prosperity”

“Local employment”

“Future generations on the land enjoying the lifestyle of a farming family” (Irrigators)

Non-irrigators tended to focus on water in terms of a balance between environment and consumption for economic development, amenity and quality of life. Thus they too reflect values about the public benefit of water and the private benefit gained because of water.



“Water provides quality of life”

“Supports my lifestyle” (Non-irrigators)

c) Need for economic well-being and control over one's life

Fisher and Ury (1981) claim that the most powerful interests in a dispute are basic human needs, such as security, economic well-being, sense of belonging, recognition, and control over one's life. All of these basic human needs were identified in interviews with irrigators. As mentioned above, the importance of water for livelihood and long-term farm and community viability was emphasised by irrigators. Non-irrigators on the other hand, identified water as important for its productive and environmental value, amenity and quality of life, - not reflecting these basic needs to the same extent as irrigators.

In particular, irrigators' needs for economic well-being and control over one's life were apparent in responses about regulation by government and an alternative concept of 'self-management'.

Respondents from all sectors said it was necessary to put a cap on the amount of water taken and have allocations based on sustainable yield. However the implication is that some irrigators may need to cut their water extraction with subsequent economic consequences.

If government puts too many restrictions on us they won't have a farmer left.
(Upper Lockyer irrigator)

All it's going to do is send farmers broke. (Upper Lockyer irrigator)

It's not so much about whether they are right or wrong but how are we going to live with it? (Central Lockyer irrigator)

Government regulation of water was of particular concern to Upper Lockyer irrigators and a major driver for the proposal for 'self-management'. Irrigators' talk about self-management was frequently expressed in terms of the need 'to have control over our destiny', farmers being in the best position to make relevant decisions about their own farm management, and the need for community cooperation. These sentiments again reflect Fisher and Ury's basic human needs.

The biggest worry we have is somebody coming in and trying to control that...it will be somebody who won't... know our business plan or our cropping regime or our irrigation regime (Upper Lockyer irrigator)

This concept (later referred to as co-management) basically was about community management of the resource. Just as the researcher assembled a collective view of what irrigators think is sustainable water use, likewise, the concept of self-management was clarified when examined as 'collective wisdom'. It reflects the basic needs for economic well-being, control over one's life, and sense of belonging. It was supported by data about a strong sense of community and long term commitment to the area. The LWUF proposal is that government could provide an overall allocation to each management area within the Lockyer (possibly 18 areas). Irrigators in each

management area would work together with information on their aquifer, supported by computer modelling, to determine appropriate arrangements for use. Basically aquifers would not be allowed to be drawn below a certain level. All irrigation bores would be metered and monitored, with meters owned and monitored by the Forum. This would be done under a governance system separate from government, such as an LWUF water management authority, which would administer the system providing property-level seasonal flexibility. It could include provision for a temporary, but not permanent trading system, again, - retaining long term control of the resource within the catchment. The Forum agreed to independent oversight and compliance. Irrigators would work towards sustainability and efficiency. Respondents also gave fairly clear ideas of what would make self-management work or why it was unnecessary or would not work.

In general, from interviews, there was majority support for the concept of self-management from non-irrigators as well as farmers, except for Central Lockyer irrigators. These irrigators, in the already regulated part of the catchment, expressed concern about upstream irrigators being able to 'continue to take our water' under self-management, and the historically inequitable regulation within the Valley. All sectors raised questions about how compliance or enforcement would work.

The basic need for control over one's life was also expressed in responses about having meters on bores. The government information paper which was released around the time of interviews, suggested that all bores would be licensed and metered. Content analysis of interviews found that all non-irrigators and Central Lockyer respondents (all of whom have meters), and a majority of Lower Lockyer respondents thought there should be meters on bores or accepted them. The rationale was based on the need to understand water usage to improve water use efficiency and longer term sustainability and to provide equity within the catchment, within sub catchments, and across the state. Those rejecting meters were concerned about the cost of buying and installing meters, potential water charges as a result of meters, and the fact that they would not address the water shortage. During later negotiations, those opposing meters decided to accept them provided they could own and monitor them. This was partly due to the fact that they thought the cost of long term maintenance and monitoring would be cheaper if they did it themselves, but also reflected the need for control of matters on their property.

In observations of later discussions between LWUF and government about metering, the different ways in which each party spoke about meters illustrated common ground that had been reached but for different reasons. Both parties agreed that there should be meters and that compliance was necessary. The main motivating factor for LWUF members adopting meters, which many had initially resisted, was the benefit of meters and data loggers in helping to understand aquifer behaviour and better manage water. Whereas government representatives emphasised that meters were the main means of compliance.

In summary, the concern of irrigators about impact of regulation on economic well-being and control over one's life need to be addressed to achieve agreement to water reforms in the Lockyer. It is interesting to note that non-irrigators including government interviewees, did not wholly reject the concept of 'self-management'.

Understanding Needs, Interests and Concerns as a basis for conflict resolution

The following analysis uses a framework by Cornelius and Faire (1989) promoting a comparative analysis of the underlying needs, and concerns, of each party to a conflict. The logic follows that of Fisher and Ury (1981) that one should concentrate on each party's underlying needs, rather than their stated positions, in a negotiation. Behind opposing positions lie both shared compatible interests, as well as conflicting ones. A stated position usually reflects only one possible solution to an underlying, and more important need. This underlying need may however be able to be satisfied in a range of ways which are more beneficial to all parties. 'Unpacking' the underlying needs is liberating to all parties in 'inventing options for mutual gain' (Fisher and Ury 1981). It is not sufficient, however, to work entirely with needs. It is also important to articulate and understand each party's concerns, since these can form an impediment to finding solutions. Overcoming concerns is potentially as important as addressing needs - a holistic and satisfactory solution needs to meet both. In this figure, for simplicity, we focus on two key parties: irrigators and government.

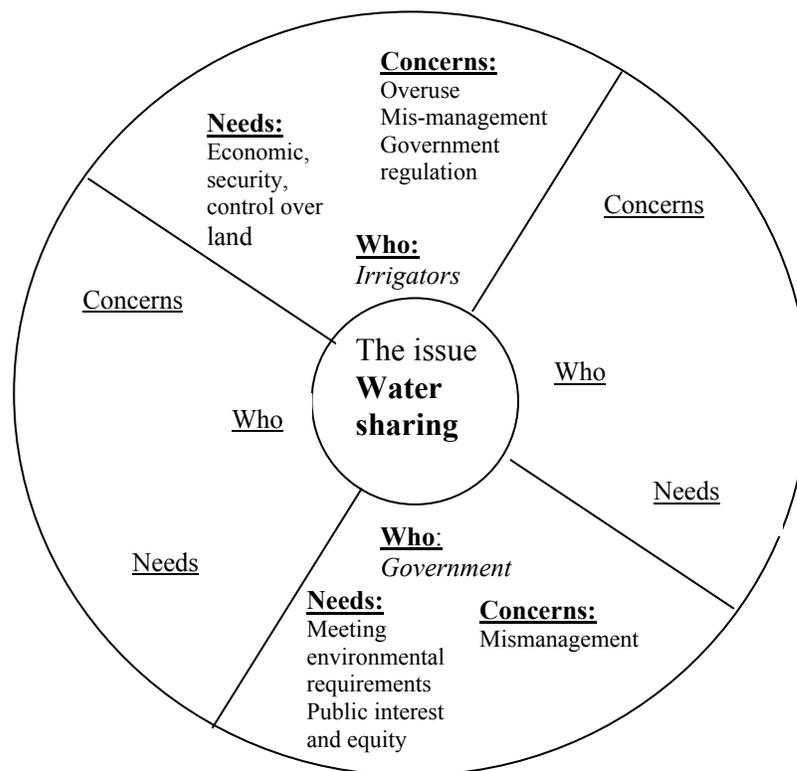


Figure 1: Needs analysis (after Cornelius and Faire 1989)

Addressing the differences - Incorporating the needs and interests into decision-making

Between April and September 2006 the LWUF initiated a series of workshops to gain agreement within the catchment on an approach to the Moreton Water Resource Plan and to reconcile differences with Government. During this time, the researcher, as a second stage to the study, was able to introduce dispute resolution techniques to assist parties in their discussions.

The following commonly accepted dispute resolution techniques were used to help prepare the parties for meetings and during meetings:

- exploration and sharing of each parties' perspectives and in so doing finding common ground
- acknowledging the others' values and interests by 'standing in the others' shoes
- joint problem-solving
- objective criteria for assessing options
- reframing statements in a more positive light.

At a meeting of irrigators in April 2006, a major outcome was endorsement of the concept of 'self-management' and delivery through sub-catchment management committees. The concept of co-management proposed by LWUF recognises that water reform in the Lockyer will progress more efficiently and effectively if the irrigators drive the process in collaboration with other key stakeholders. It relies on consensus-based decisions at a sub-catchment level, based on provision of credible information. This approach will build confidence between partners, consolidate the sense of community, and contribute to sense of economic well-being. These appear to pre-requisites for meeting environmental objectives for water management from the irrigators' perspective. Significantly, this meeting achieved an agreement among irrigators to the following objective which incorporated the range of values in the community:

Water users manage a just balance between effective and efficient use of the water resource for the community and environmental benefit.(LWUF April 2006)

The Forum decided later to change the concept to 'co-management' to indicate a partnership with government. This became the basis for an LWUF application for National Water Initiative funding to support implementation of co-management.

The difference in views between LWUF and DNRM&W became apparent when government was asked to provide a letter of support to the funding proposal in June 2006. The DNRM&W letter was not supportive of co-management and indicated that

government had major policy differences with the LWUF Co-management proposal. A follow-up letter from the Government to LWUF listed the following concerns:

1. Inconsistency with State Metering Policy
2. Disagreement with the co-management proposal, and preference for volumetric allocations for benefited areas (ie Central Lockyer and possibly Lower Lockyer)
3. The proposed Board and its role
4. The Board's geographic area of responsibility
5. The need to comply with the Regulatory Framework
6. That the LWUF proposal did not support establishment of tradable water allocations in certain areas
7. Identifying key drivers for water use efficiency.

A key workshop between LWUF and DNRMW in July 2006 was preceded by a meeting with each party individually at which the researcher asked them to think about what was behind the views of the other party and to try to identify common ground. As a result, at an initial brief meeting both parties agreed on the common objective of achieving sustainable use of the underground system. This contributed to a spirit of cooperation.

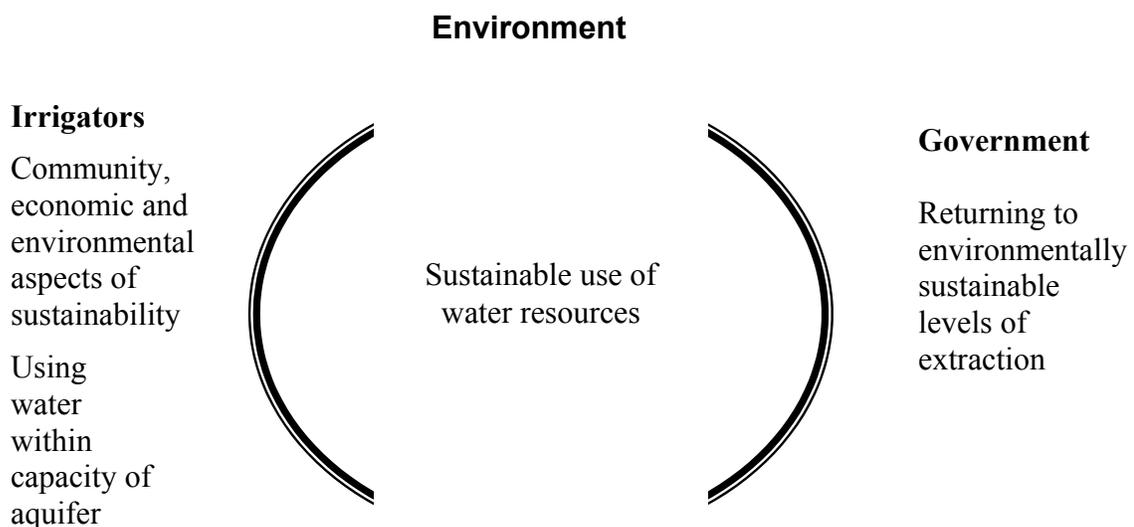
A workshop that followed provided an opportunity to explore and understand each others' perspectives - 'standing in the others' shoes'. This more clearly identified areas of agreement and disagreement and some basic criteria for assessing options. A turning point was when the researcher suggested that the group might jointly work on building a system together taking into account both parties' needs, thus reframing the discussion into a joint problem-solving approach. Joint problem-solving reduces tension and focuses on a constructive approach to achieving agreement. Progress was made but it was quickly identified that more information was needed about certain aspects before discussion could progress.

At the next meeting in two weeks time, continuing with the problem-solving approach, information was shared about cost/benefit of State vs LWUF control of metering. Information provided on the possibility of LWUF becoming a water service provider for the purposes of administering water management revealed that it was currently not possible under the *Queensland Water Act*. However DNRM&W gave a commitment to explore options. The exploration of options is ongoing, with an apparently sincere effort being made by DNRM&W to accommodate LWUF needs for greater control of water management in order to gain support and compliance of irrigator members.

Analysis of common interests

Since the irrigators propose co-management of the water resource, the following analysis draws from a framework developed by Ross and Innes (2005) for the design of co-operative management of protected areas. It is also used here because of its similarity to the dispute resolution technique of ‘finding common ground’. The central concept is that of a negotiating or design ‘space’ representing a common area of potential agreement, or criteria that mutually satisfactory solutions need to meet. Too often in negotiations the parties waste time debating factors that are not readily amenable to change, in an attempt to pull the other party into one’s own way of doing business or seeing the world. It is more productive to accept that each party has ‘given’ factors that are not easy to change or open for negotiation, whether these involve different cultures, different legislation, or different management arrangements. It is more fruitful to understand the other party’s operating necessities, but accept these as ‘given’ and spend discussion time focussing on coming to arrangements that meet each party’s needs (represented within the centre of the ‘space’). What administrative arrangements are compatible with both parties’ cultures, scales of operating, and organisational requirements?

For this analysis, we illustrate the shared ‘space’, which each of the parties arrive at for different reasons, based on different underlying needs. On one side we show values and needs of the irrigators, and on the other, - for the purpose of a simple illustration of this concept for this paper, - those of one important party to managing underground water, the key State government agency. In the middle we show the areas of potential agreement. This assists in identifying areas where there is need for more information and further negotiation. The following figures illustrate the parties’ perspectives and the outcomes of negotiations so far, using the ‘space’ concept.



Regulation - Meters

Irrigators

Meters are essential to understand how the aquifer works, essential for crop production

Meters therefore need to be owned and maintained by irrigators



Government

Meters are essential for compliance

Meters therefore need to be owned and maintained by government

Regulation by Co-management

Irrigators

Strong sense of community and commitment to region

Accustomed to having control over business decisions and lifestyle

Co-management over whole of Lockyer



Government staff

Strong commitment to government agenda

Accustomed to having little say on decisions made

Co-management only in Upper Lockyer

Information and decisions

Irrigators

Information can be provided by irrigators with government assistance and cooperation



Government

Information can be provided by government with irrigator assistance and cooperation

In the Lockyer, use of conflict resolution techniques integrated into the decision process about water planning has contributed to reduction in tension between two of the key parties, DNRM&W and irrigators, and a joint problem-solving approach.

The Lower Balonne provides a contrast to the Lockyer. While irrigators and DNRM&W are key players, there is another important party, downstream graziers, whose needs and concerns have to be factored in. The allocation challenges are of a high profile nature, being at the top of the stressed Murray-Darling Basin system, and subject to a long history of conflict both personal and fought in the courts. Water resource planning is at a more advanced stage than in the Lockyer but is still not progressing smoothly.

The Lower Balonne Catchment

The Lower Balonne catchment has experienced a major expansion of irrigated cotton over the past 15 years. The ability to take water varies among irrigators. A small portion of irrigators take water from a channel system fed from Beardmore Dam on the Lower Balonne. A number of others rely on surface water harvesting to offstream storages from the Lower Balonne river and tributaries, regulated by releases from Beardmore Dam; and yet another segment of irrigators rely on storing overland flow through bunds built to retain natural 'out-of-river' flows or overflow of water from the River (overland flows). Some irrigators have access to more than one of these sources. Downstream of the cotton growers in the Culgoa and Narran catchments are dryland farmers and graziers, many of whom rely on water for stock and domestic use and overland flow to wet substantial areas of floodplain, a valuable source of pasture production. Environmental features such as the RAMSAR listed Narran Lakes also rely on wetting from flows from the Lower Balonne tributaries.

Over the years, there has been increasing concern about the impacts of reduced stream flow; salinity potential, and less beneficial flooding of grazing lands downstream, much of which is in northern New South Wales

The Lower Balonne catchment is at a different stage of the water planning process from the Lockyer, with a WRP completed in 2004 and the next stage of planning, the ROP process underway. It has a lengthy history of conflict about water (Tan 2000).

There was a fair amount of controversy surrounding the release of the draft *Condamine-Balonne Water Allocation and Management Plan* in 2000. The conflict peaked in 2002 primarily over issues of validity of scientific evidence for recovering water from existing irrigators for environmental purposes and low trust and confidence in the water planning process. The Queensland government subsequently amended the Water Act to have a 2 stage water planning process as exists today.

In 2002 the Queensland government commissioned an independent scientific review through a Scientific Review Panel which culminated in a report released in Jan 2003 (Cullen, Marchant & Mein 2003). This resulted in the draft WRP including a watering and event-based management strategy for Narron Lakes and Culgoa floodplain. 150 submissions were received on the draft Plan by mid March 2004. At the same time NSW and Queensland ran an analysis of a flow event that occurred through the Lower Balonne in January 2004 which was intended to inform the discussion. However the analysis was not presented for discussion until 2006. The Final WRP was approved in Sept 2004, much to the relief of the Department which had worked for more than 6 years on water planning in this particular catchment and had been in court during the earlier water planning process.

An ‘Intention to Prepare’ a draft ROP was subsequently announced. In Queensland, it is required under the Water Act that a community reference panel will be formed to advise on preparation of both the WRP and ROP. In the case of the Lower Balonne, because of the history of conflict it was decided that the advisory group would report directly to the Queensland Minister for Department of Natural Resources Mines and Water. A call for expressions of interest for interested persons to nominate for a position on the Lower Balonne Ministerial Water Resources Advisory Council (MWRAC) was advertised in November 2004. The Council’s role was to:

- “to advise the Minister on the implementation of the Condamine and Balonne WRP and assist in preparation of the ROP;
- to liaise with other councils and implementation of any agreement with NSW about water in the plan area or downstream of the plan area; and
- to advise on issues affecting the sustainable use and management of water resources in the Lower Balonne” (public notice).

The council members were to be selected from the following interests/sectors:

- Water Service Providers (Sunwater and State Water)

- St George water harvesters
- St George Allocation Holders
- Dirranbandi Water harvesters
- Grazing/Dryland Farmers (Qld and NSW)
- Traditional owners (Qld and NSW)
- Local Government (Qld and NSW)
- Environment (Qld and NSW)
- Business (Qld and NSW)

While the WRP process was considered to be an improvement on the previous water planning process (Vanderbyl & Bouilly 2004), there were still considerable concerns raised by the government of New South Wales, downstream graziers (most but not all from NSW), Aboriginal people and environmentalists that the mechanisms in the WRP would not adequately address overallocation of water resources. This was exacerbated by a long period of drought. In addition, a concern about perceived lack of acknowledgement of downstream grazing community concerns for a number of reasons had major implications for the credibility of the upcoming ROP process.

Values and Interests about Water Allocation in the Lower Balonne

As with the Lockyer case study, photovoice interviews were conducted to elicit the values and interests about water allocation. An almost identical open-ended questionnaire was used, adapted to suit Lower Balonne circumstances. A total of 34 people involved in water decisions were interviewed - 11 irrigators, 8 graziers, 9 State and Local Government and 6 others (Aboriginal people, landcare, and environment). This included most of those appointed to the MWRAC as well as some who had been involved in the Community Reference Group for WRP process.

It was not possible to trial conflict resolution techniques within the scope of this case study as all the NSW appointees and graziers boycotted the MWRAC process. As a result the analysis focuses on some of the 'process' values and interests identified.

Results of Interviews - identifying values and interests in water

Downstream graziers and NSW government staff indicated in interviews and in letters to the Queensland government that both grazier's and NSW government's needs and interests had not been acknowledged either through the process for developing the WRP, or the outcome, the WRP itself. Other interviewees confirmed this perception.

We had absolutely no impact whatsoever! On any of the outcomes from that particular committee, because it was dominated by irrigators and they were going to make sure that the outcomes were in their interests. ...It's like arguing against any ... powerful financial interest. I mean even governments are swayed by those sort of things. And governments love the word 'development'. Always have, always will. ...I don't think they really care what happens below the border. (Downstream grazier)

As a result, both graziers and NSW government officers made it clear to the Queensland government, as well as to the researcher, that certain aspects of the ROP process would need to be changed for them to be involved in this next stage.

As time passed with minimal communication between Queensland Government and graziers with little progress being made, some of the graziers also indicated that there may not be any point in being involved since the ROP would only implement a flawed WRP. Many of these graziers were severely affected by lack of stream flow for stock and domestic use and lack of beneficial flooding in spite of some evidence that similar upstream flows in previous years would have delivered sufficient water for these purposes. The effects of drought on these properties not only exacerbated the situation economically and environmentally, it made it challenging to gain recognition of the validity of their case, without proper examination of data.

The water's over-allocated for a start. There's 1.5 million megalitres of storage between St George and the border. And the mean annual flow is 1.2 million megalitres. So I mean it speaks for itself.all these trees and the rivers are dry and silted up. I think all those people will be terribly upset if someone upstream of them was doing the same thing. And they've just got to be a bit more longsighted and realise that the floodplain has to exist.



Lignum country: normally wouldn't see 50 m beyond the road for the bush ... Dying trees have a psychological effect...

you also miss out on a lot of money...I've been trying to retire for a year ... It's a bit hard to sell a dead horse (grazier)

While the DNRM&W considered ways of adjusting the process to accommodate downstream users' demands, in the end, the process was unchanged. This meant that the downstream graziers and almost all NSW representatives decided that it would not be worth their time and effort to participate in a process in which they felt they would not be heard and would have no influence. They boycotted the ROP process, which continued without them.

During this process, there is little evidence that a fundamental principle of dispute resolution, that is, active listening and ensuring that parties are heard and respected, was adopted. The credibility of the process was affected.

Conclusion

Conflict resolution techniques can be built into longer term planning and consultative approaches to benefit decision-making on water allocation. This research illustrates how uncovering values and interests about sustainable water use and control over one's life and addressing concerns about regulation are being incorporated into a decision-making process in the Lockyer catchment, and could have been used in the Lower Balonne. In seeking common ground, 'standing in the others' shoes', joint problem-solving, identifying criteria for options, and reframing, - all dispute resolution techniques - the process in the Lockyer catchment has resulted in a respectful sharing of views and discussions towards alternate administrative arrangements. While the outcome of negotiation on the draft Lockyer WRP is not yet decided, it is clear that there is progress towards greater achievement of long term regional sustainability as defined by the triple bottom line (economic, social and environmental) and improved acceptance of the water reform agenda in the Lockyer. In contrast, the lack of attention to needs and concerns, and omission to use some basic conflict avoidance techniques, particularly respectful sharing of views and active listening, led to an escalation of conflict and breakdown in relationships between the parties in the Lower Balonne. By addressing the concerns of all parties, including those that left the process, the Queensland government may have ensured a more credible and enduring ROP decision-making process in the lower Balonne.

This does not mean that water resource planning and allocation processes should necessarily be treated primarily as conflict resolution processes (though the processes may occur in contexts where conflict is present). Rather, we argue that respect for needs and concerns, the identification of underlying interests and common ground, and appropriate use of other conflict resolution approaches, can add value to a planning or consultative process.

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