



Reforming Rural Water Use: Benefits & Challenges

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It is a paradox that while water is one of Australia's scarcest resources we use more water per capita than almost any other country. Perhaps we should not be surprised then that in 2001 in politics, the public sector, industry and the general community, there is significant consensus that past water practices could not be sustained, both economically and environmentally.

Water is a hot topic on this year's policy agenda. Water policy is enjoying unprecedented publicity and is triggering new relationships between unfamiliar bedfellows such as the Australian Conservation Foundation and the National Farmers Federation.

However while the acceptance of the need for change is now at an all time high our Governments began wholesale reform in both urban and rural water use some seven years ago.

In 1994 the Council of Australian Governments that is, the State, Territory and Federal Governments combined, agreed to an integrated package of measures aimed at addressing the economic, environmental and social implications of future water use in Australia. The reforms aimed to ensure:

- the efficient and sustainable use of water both now and in the future;
- that water is put to its most productive use; and
- that the needs of the community are met, in particular, by providing ongoing security of access to water for all users.

Five Key Areas of Water Reform

This was to be achieved through a number of mechanisms. These are:

- Reforming how the water is priced taking into account the cost of supply, including environmental costs, as well as the quantity used in order to encourage more efficient water use and to promote greater conservation.
- Changes to water institutions to remove conflicts of interest between water provision and regulation, standard setting and natural resource management.
- For rural users the reforms require the separation of water property rights from land title and the clear specification of water entitlements in terms of ownership, volume, reliability and in some instances quality. This is designed to enable water to be traded and put to its most productive use. However, in a significant departure from previous practices, the uncoupling of water allocations from land title is also enabling the environment to receive explicit allocations for the first time. Thus, the reforms recognise both the environment's right to and need for water and the interdependent relationship between industry, in particular agriculture, and a healthy environment.
- Water quality management is also being improved by implementing integrated resource management practices, catchment planning and national strategies.
- The final mechanism for change was public consultation and education at all stages of the reform process.

At this point you might be asking how the National Competition Council's fits in to all of this. The Council oversees the implementation of a broad series of reforms called National Competition Policy. This policy involves improving the performance of essential service infrastructure including the water industry. The Council monitors and assesses the progress of water reform in all States and Territories and in turn makes recommendations to the Federal Treasurer on appropriate payments to each government. From the Council's perspective, the water reforms are undoubtedly some of the most far reaching and important reforms of any that come under the National Competition Policy.

So the reform process started back in 1994 and a lot has already been achieved, particularly in urban areas.

Achievements in Urban Water Reform

In our cities and towns the reforms have meant calculation of water bills based on usage and the cost of supply. Clearly the cost for some water customers has increased while for others it has decreased. However, in all cases customers now have far greater control over their water bills as well as a financial incentive to use water wisely. The resultant reduction in demand for water has postponed the need for new water infrastructure investment saving both taxpayer dollars and the environment. In fact in Melbourne it is estimated that the need for a new dam for metropolitan water supply has been postponed by between 20 to 30 years due to demand management associated with the reforms.

The reforms have also resulted in improved accountability and customer focus of the urban water industry as well as better service delivery and, in general, a reduction in water bills across the board. At the same time more is being spent on improving drinking water standards and the management of wastewater.

However, it is appropriate that today I talk predominantly about reforming water use in rural Australia as that is where the bulk of the reform work remains.

Rural Water Reform: The Big Picture

Rural Australia is the major user of water. In fact agricultural irrigation accounts for over 70% of Australia's total water use. Obviously the reforms represent a huge change and challenge for rural Australia. While rural Australia must carry much of the burden of water reform, rural communities will also receive the lion's share of its benefits.

The fundamental benefit of water reform to rural users is a move to a sustainable system which will support, as oppose to undermine, the long term viability of Australian agriculture – an enterprise which is fundamentally dependent on the health of our land and waterways.

The current cost of land degradation as a result of long standing farming practices is about \$2 billion each year and rising.

Dryland salinity is the cause of much of this degradation and the cause of widespread community concern. Dry land salinity is visible and therefore, easily measured.

Dryland salinity's lesser known cousin is water based salinity caused, in large part, by flood irrigation. Extensive flood irrigation has created lush pasture out of much of Australia's arid land. When the water is released back into the river all the waste, the nutrients from livestock and

chemicals from crops, is also released. Salt is transported by water. As a result of these kinds of practices, rivers such as the Murray, and the communities that depend on them, are now seriously threatened. The National Land and Water Resources Audit 2000 estimated that up to 20,000 kms of streams could be significantly affected by 2050.

Let me be very clear. Without change we will see the decimation of many regional communities as well as large parts of Australia's natural heritage.

The stark reality is that without change it has been estimated that:

- the amount of land affected by salinity could grow from 2.5 million hectares to 15 million hectares-that is double the size of Tasmania
- 50 per cent of woodland bird species could be extinct, and
- Adelaide's water could be undrinkable in 20 years time.

However the merits of avoiding long term land degradation aside there are also extensive short to medium term benefits as well as some significant challenges for rural water users arising from the water reforms.

Water Allocations and Trade

The water reforms recognise that water is part of an environmental system which does not recognise state or private boundaries.

Traditionally, a farmer's allocation of water was dependent on the amount of rainfall that fell, and rivers and streams that ran through the property. Thus water rights were inherently linked with ownership of land.

This system enabled 'up stream' users to build dams and harvest the natural flow with few restrictions. The actual amount of water used and or stored was generally unknown. 'Downward stream' users had less certainty of supply than 'upstream' users and no access to the harvested water 'up stream'.

Meanwhile no thought was given to the environmental implications of denying a river system its natural flow. It is estimated that the median annual flow of the Murray River at the mouth in South Australia is now only 21% of the natural flow. More alarmingly, the Murray Darling Basin Commission has now concluded that all of the rivers in the Murray Darling Basin system across four states (apart from the Ovens) are regarded as stressed. We are only just beginning to understand the true impact of past water practices on our environment. The unchecked use of water has resulted in environmental devastation as well as the real threat that some communities will simply run out of water.

Thus while the farmer had water rights linked to his/her land title, the quantity and quality of actual water received was in fact most uncertain with no mechanism to ensure water was used efficiently, for the greatest return or to sustain the natural environment.

This is changing under the reforms as water rights will be clearly defined with entitlements specified in terms of ownership, volume and reliability.

In addition, the separation of water rights from land title is providing irrigators with a tradable asset. In the past, because water allocations were tied to a parcel of land, changes in farm practices that required more water meant additional land had to be purchased regardless of whether the land itself was needed. This was both cumbersome and costly. Further, there was limited financial incentive to conserve water as any excess could not be sold.

Water trading gives farmers greater flexibility to alter crop types in order to maximise farm income. In particular, the ability to buy water gives producers greater capacity to make longer term decisions. Perennial high investment crops such as fruit trees require a reliable supply of water from one season to the next. A wheat farmer who plants and harvests the entire crop every year may be able to, from time to time, tolerate the loss of, say, 20 per cent of a total crop. However, an olive grower only harvests the fruit and would find a loss of trees through lack of water more difficult to sustain. Water trading allows producers to buy water, without land, at a market rate where it is needed resulting in an improvement in the reliability of their water supply.

The financial return from irrigation varies greatly between different crop types. For example, the same megalitre of water that produces a tonne of rice may provide five to twenty times the financial return when applied to wine grapes. At present more than 40 percent of irrigation water goes to low value pasture activities. Water transferred out of broad acre cropping into, for example, stonefruit is likely to boost overall rural profitability. There is not infinite scope for doing this of course. But the substantial increase in wine exports in recent years gives an indication what can happen when scarce water is available to, and used in, those irrigation industries that generate the highest net returns.

In some parts of Australia it is argued that, historically, water represents on average some 70 per cent of a property's value. It is not surprising therefore that changes in the method and quantity of water allocated is creating difficulties for both irrigators and banks when managing ongoing credit, lending additional funds as well as concerns that uncertainty and greater risk will lead to higher lending premiums. These problems are unfortunately compounded by delays and some confusion surrounding the introduction of new systems by the various State and Territory Governments.

It is important the governments move to minimise transitional uncertainty for irrigators by developing well defined water property rights in a timely manner where users get:

- the most security possible about the nature of the property right, so they can then form reasonable expectations of the benefits provided by the right; and
- absolute security on the issue of ownership for the duration of the right.

In relation to ownership, each State needs to focus on the establishment of a registry of property rights that provides clear title and allows third parties, for example banks, to register interests in the property right and have preference over non-registered interests. With regard to the nature of the right, water property rights need to be well specified in the long term sense and exclusive. Those of you who are interested in further details should refer to a background paper on water property rights on the NCC website at www.ncc.gov.au.

In the short term, changes, and ultimately reductions, to water allocations could result in reduced productivity while farmers adapt to new conditions. In addition, farmers may need to deal with refinancing costs as a result of lowering property values. Such costs would flow on to effect the economic and social wellbeing of surrounding communities.

So a fundamental question of water reform is ‘Who should pay?’ for adjustment to the new regime. There are numerous arguments for and against some form of compensation. Ultimately, the question of compensation for any loss of past rights to water is a dilemma that each State and Territory Government must solve, depending on their own circumstances and local considerations.

The efficacy of the new water allocation process and thus the ability to trade water will, however, have a large impact on many farmers’ ability to offset the short term costs of water reform. The ability to buy and sell water through a market, subject to some social, physical and environment constraints, will allow producers increased flexibility to:

- structure their farms in order to maximise profitability;
- or assist those who wish to change the use of their farm;
- or to leave the industry through the sale of their water property rights.

The latter option is being used by some farmers as a retirement nest egg.

Governments are at various stages of introducing intrastate trading regimes. In those states where some trading exists, benefits are clearly evident. For example, the benefits of current limited trading arrangements

in New South Wales have been conservatively estimated at between \$60 to \$100 million a year in agricultural output. (Marsden Jacob Associates 1999)

On 1 January 1998, the Murray Darling Basin Commission commenced a trial interstate water trading project. Initially the trial has been limited to the permanent sale and purchase of high security water by private diverters in the Mallee Region in NSW, Victoria and South Australia.

After two years the trial underwent a review. This review identified the need for improvement in administrative arrangements. In particular licence registration, record keeping and the separation of volumetric trading from access and environmental considerations were examples of where efficiency gains could be found.

While it is still relatively early days, the experiences to date are promising. Trading has increased the value of water use in the Murray Darling Basin with the majority of trades involving the sale of previously unused water to South Australia due to its limited water allocations and the significant growth in its wine industry. Ultimately trading is allowing greater farm flexibility and enabling improved productivity. Consequently the Council sees the expansion of the trial as the next logical step once existing residual problems are addressed.

Cost Recovery and Pricing Reform

The reforms are also requiring greater cost recovery for water supply services. This is ensuring funds are available to maintain water infrastructure into the future. Savings from more efficient uses of water, such as enclosing open channels and reuse technologies, are helping to offset some of the price rises necessary to achieve full cost recovery.

In the past water was under-priced. Past irrigation schemes did not generate sufficient revenue to cover the cost of ongoing maintenance. As a result, many schemes became run down and were dependant on governments for ongoing maintenance.

The move to full cost recovery combined with a reduction in actual water allocated will increase water prices. While this creates the incentive to conserve water it may also place additional pressure on some irrigators who may have to pay more for less.

Some agricultural sectors in some states will genuinely find full cost recovery very difficult to achieve in the short term. Governments have tried to offset this by finding efficiency savings in bulk water provision and by phasing in cost recovery over a number of years. Even with these measures, there will be a small number of schemes that will require

ongoing assistance in the long term. However, this is not a reason for inaction.

This lack of cost recovery in some schemes, combined with general over allocation of water across Australia reinforces the need for rigorous economic and environmental scrutiny of proposals for new rural infrastructure investment.

The development of state based approaches to water reform, in partnership with producers and local communities, enables local issues to be actively considered. Indeed, a specific requirement of the water reform agreements is for constituents to be given a greater degree of responsibility in the management of irrigation areas, for example, through operational responsibility being devolved to local bodies subject to appropriate regulation. This devolved approach will result in positive outcomes that are more sympathetic to community concerns.

The Environment

The Murray Darling Basin Commission plays a pivotal role in Australia's water reform. It manages Australia's largest and most developed river system covering one million square kilometres incorporating 75 per cent of Australia's irrigation and 40 per cent of the value of our gross agricultural product.

In response to the continuing growth in water diversion and declining river health in the Murray Darling Basin, the relevant governments agreed to cap the volume of water that could be diverted from this system at 1993-4 levels.

The primary objective of the cap was to maintain and, where possible, increase existing natural flows, improving the riverine environment while encouraging sustainable consumptive use. The cap represents a balance between the significant economic and social gains that have been achieved through development of the Basin while recognising the need to sustain the natural environment on which these gains have been based.

New South Wales, Victoria and South Australia are currently operating under the cap. Queensland is currently finalising its cap and intends to enter into the same compliance arrangements as those of the other States by December 2002. The ACT has also indicated its intent to finalise the cap.

In August 2000 the Murray Darling Basin Commission completed the first five yearly review of the cap's operation. This review reached a number of significant findings. These included:

- that the current cap was an arbitrary amount based simply on the level of diversions at a point in time when a limit was decided upon;
- that the environmental consequence of the current cap may not be known for several decades, and
- that the current cap may not provide for a sustainable ecosystem but is nevertheless an essential first step in achieving this outcome.

As a result the Murray Darling Basin Commission has renewed its commitment to addressing these problems, not the least through continuing support of scientific studies that will provide the knowledge on which future consumptive use and environment decisions can be made. There is no reason to believe that the current cap is adequate to sustain the environment and the communities that ultimately depend upon it.

Even the current cap has been difficult to implement. Only last year on-farm storages continued to increase in Queensland, with the lower Balonne in Southern Queensland increasing by 340 gigalitres alone. The Queensland Government accepts that the Condamine – Balonne is now a stressed river system and a moratorium on further growth has been put in place. The largely unchecked development in this region over the past five years has substantially increased the economic and social costs of achieving water reform commitments.

The environment has not gone unscathed. The Condamine – Balonne system supports 20 per cent of the wetlands in the whole of the Murray Darling Basin, including the Narran Lakes in New South Wales, which have international standing. The dramatic reduction of the natural flow, together with the increased pollutants generated by irrigation practices, has meant that this area is now under threat.

So what does all this mean?

The difficulties of change associated with water reform for rural Australia are both interrelated and highly complex.

Generally speaking, problematic water practices have become entrenched while the visible signs of damage to the environment have been very slow to appear. Unfortunately the damage will also be slow (and in some cases impossible) to reverse.

Whole regions have built enterprises based on particular patterns of land and water use and these cannot be changed overnight without enormous economic and social implications. In addition, there can be an insidious spiral effect where current practices leading to land degradation (effectively reducing farm productivity) and lowering farm incomes tends to result in shorter term, less environmentally sound, farm practices.

While it is a very complex issue there are some undeniable facts. We now know:

- that past water practices caused huge damage to our unique natural environment and where water use remains unchecked are still continuing to do so;
- that these practices were unsustainable with gross over-allocations of water presenting a real threat to reliability of supply;
- that reform presents a significant challenge to all Australians and their governments, particularly those who live in rural communities who are largely dependent on enterprises built on these water practices;
- that while change is difficult, delays to reform compound these difficulties for all concerned; and
- finally, while the burden of change is difficult for rural Australia, these communities have more to lose if change is not embraced and the most to gain if it is.

The Solution

The way forward was recognised way back in 1994 when the Council of Australian Government initiated water reform. A critical part of the reforms is public consultation and education at all stages of the process.

Local people are involved in the reforms through the management of their own irrigation schemes at the local level and via their representatives from affected constituencies. The development of water management plans for individual regions are being generated by all stakeholders recognising that local solutions will generate long term benefits.

Irrigators, farming and water representatives, political and community leaders are finding solutions to immensely difficult problems. These people are all too aware that there is no way back on water reform and that it is only as a community intent upon a solution that we can find a way forward.

The National Competition Council is now concluding its 2001 NCP progress assessment report. The State and Territory Governments' individual progress on water reforms is included in this report. I am unable to make more specific comments at this stage. However, the Assessment will be publicly available once the Treasurer has considered it responded to its recommendations on Competition Payments to the States and Territories.