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Water Rights and Wrongs

Ever since the development of a large-scale irrigation scheme at Mildura by the Chaffey brothers in 1887, the management of water in Australia has been an issue of considerable tension and debate. Few issues have the potential to pit farmer against farmer and city against country in the same way that a debate about water does.

In many ways, the water management agreement reached by the Council of Australian Governments in 1994, which was subsequently incorporated into the National Competition Policy agreements in 1995 should have signalled a new beginning for water management in Australia. Unfortunately, in 2001 the intent of those agreements is still far from being implemented, highlighting that well-intentioned policy amounts to nothing in the absence of political will.

It should be no surprise that in a country like Australia, the driest inhabited continent, one of the first substantial disagreements between the States of the newly-formed Federation at the turn of last century involved the issue of water. NSW claimed the Murray River (the State border with Victoria is actually the southern bank of the river), both NSW and Victoria claimed its waters, and not surprisingly South Australia felt threatened.

And it also should be no surprise that it was ordinary people, not Governments, who initiated discussions on the issue at a conference in Corowa in 1902. This eventually led to the River Murray Waters Agreement some thirteen years later in 1915, which resulted in NSW and Victoria sharing the water in the Murray, and jointly guaranteeing South Australia a minimum quantity of water.[1]

The pattern of water management prevalent at the time of Federation has not changed greatly in the ensuing hundred years. Conflict between States, the Commonwealth, dryland farmers, other users and more lately interests representing the environment have continued to the present time, despite numerous attempts to resolve some of the problems, and despite general agreement on appropriate policy approaches.

The 1994 COAG Water Agreement

The most recent attempt to reform water management began with the agreement reached in February 1994 at the Council of Australian Governments (COAG) meeting. This agreement was subsequently incorporated into the National Competition Policy agreements signed by all Australian Governments in April, 1995. The background to this agreement was recognition that higher economic growth and employment required a acceleration of micro-economic reform of the economy.[2]

COAG commissioned a report on the water industry in mid-1993, which concluded that the water industry had major shortcomings on both efficiency and sustainability. It was generally recognised that current water use practices were unsustainable, and when coupled with more generalised land degradation problems, were having a significant impact on the quality and quantity of water that would be available in the future. Specific shortcomings included:

- major anomalies in charging for water, and services associated with water delivery
- inadequate financial provision being made for water asset refurbishment needs
- impediments preventing water resources being transferred to their most productive use
- service delivery inefficiencies
- a lack of clear definition of roles and responsibilities.

A strategic framework called the COAG agreement was agreed (with some exceptions) as a means of addressing these issues. It included a commitment by Governments to a package of measures to address the economic, environmental and social implications of future water reform, including a move to full cost recovery in pricing water, the clarification of property rights to water, the allocation of water to the environment, the adoption of trading arrangements, and institutional reforms and public consultation processes.

[1] Quiggin 2001, Environmental economics and the Murray-Darling river system, AJARE 45:1, 67-94

[2] NCC 1999, *Compendium of National Competition Policy Agreements*,www.ncc.gov.au

From a water users perspective, two of these issues were especially critical. The first was the commitment of a specific allocation of water to the environment, and the second was a commitment to develop secure property rights for water users.

On the allocation of water to the environment, the COAG agreement specifically required Governments to provide "allocations to the environment as a legitimate user of water" with environmental allocations determined "on the best scientific information available and to have regard to the inter-temporal and inter-spatial water needs required to maintain a healthy and viable river system and groundwater basins."

On the issue of property rights for water users, the agreement stated that "the State Government members of the Council would implement comprehensive systems of water allocation or entitlements backed by the separation of water property rights from land title and clear specification of entitlements in terms of ownership, volume, reliability, transferability, and if appropriate, quality."[3]

Compliance with these agreements has been secured via a series of three tranche payments that the Commonwealth agreed to make available to State and Local Governments that meet required deadlines for implementation. No action specific to water was required for the first series of tranche payments, commencing in 1997-98. The second tranche payments, commencing in 1999-2000, required the States to have implemented the broad framework for water reform, and the third tranche commencing in 2001-02 are conditional on the States having given full effect to, and continuing to fully observe all COAG agreements on water. Given these payments total in excess of $16 billion, there is significant incentive for the States to perform.

Some progress has been made on quite a number of aspects of the COAG agreement, although it has been made more difficult by the complexity of water systems that currently exist, and which have to be de-constructed and transformed into the COAG model. It is also evident that Governments and bureaucracies are having considerable difficulty with the notion of creating secure property rights for water users. This is undoubtedly driven by the realisation that once these are established, any future negative adjustments to water entitlements for irrigators may automatically generate a compensation cost for the Government.

Water Property Rights

Because, unlike land, water is not able to be fenced, surveyed and identified on a map, the definition of rights to water are somewhat more complex than defining property rights to land. That does not, however, reduce the importance of secure ownership of well-defined water rights as an essential foundation stone in ensuring that the water resources available are put to their best economic use in order to maximise wealth generation in the community.

"Secure rights encourage a long-term interest in maintaining the productivity of a resource or infrastructure, rather than a short-term interest in exploitation."[4] "Secure rights encourage associated private investments to improve facilities, thus augmenting benefits, often without public cost. Secure rights also avoid wasteful use of resources … in trying to establish a claim over disputed assets. Rights also promote the possibility of trade in the assets and transfers among users to exploit comparative advantages."[5]

The extent to which the advantages available from secure water property rights can be captured depends on how well the property right can be defined, the legal structures that support those rights, and the ability owners have to trade those rights, so that they can be put to their most productive use. Constraining this is the need to ensure those rights are not used in a way that creates unacceptable changes in the environment, and the physical limitations of any water delivery system which will dictate how much water can be transferred to any location within a specified timeframe.

In 1995, the Agriculture and Resource Management Council of Australia and New Zealand (ARMCANZ) published a set of guidelines that aimed to better define water property rights, and how they should be implemented.[6] The guidelines outline characteristics of property rights in two general categories; those relating to the nature of the right, and those relating to ownership or the rights of holders. The ARMCANZ guidelines note that an efficient, market-based system of tradeable water entitlements requires those entitlements to be:

- in demand (i.e. scarce relative to total demand)
- well-specified in the long-term sense
- exclusive
- enforceable and enforced
- transferable and divisible.

For water property rights to be in demand, there needs to be scarcity relative to total supply, plus confidence in the marketplace about the nature of the right being secured, so this characteristic is somewhat dependent on the other characteristics of the property right. Australia's dry climate will generally mean that demand for water will exist, although extreme climatic variability means this will not always be the case. This raises the question of the role of speculators in water markets. While there is some fear that a "Hunt brothers" style cornering of water might occur, there is no doubt that speculators play a valuable role in any market, ensuring that a buyer or seller will more frequently be present in the market to retain liquidity. Restricting speculators who don't use water from participating in a water market is also no guarantee that a water-user won't decide to indulge in a bit of speculative trading!

3 NCC 1999, op. cit.

4 Perry & Kite 1999, 'Water Rights: Importance, difficulties, and new approaches to data collection and analysis', *Water International*, vol. 24, no. 4, p 341.

5 ibid

6 ARMCANZ 1995, 'Water allocations and entitlements: A national framework for the implementation of property rights in water', Paper No.1

The need for rights to be well specified in the long-term sense deals with two aspects of the right – its duration, and the exact nature of the right.

The question of duration is not just a feature of water property rights. NSW Labor party Premier William McKell recognised in the early 1940s that terminating land leases in the western division of NSW were impeding economic development. This was because leaseholders tended to over utilise the land towards the end of their term unless renewal was guaranteed, but also were unable to invest in improvements because of the lack of asset security they were able to provide to banks. It was for those reasons that he converted Western Lands Leases to leases in perpetuity, and it is widely accepted that the condition of the land covered by these leases has improved considerably since that time.

The need for long-term security is just as important in relation to water property rights. Water-users are unlikely to invest thousands of dollars per hectare in capital improvements that can greatly enhance water use efficiency if they only have a few years security of access to water. Similarly, banks and financial institutions will severely discount the value of water rights offered as security if they only have a limited duration. The ARMCANZ guidelines state the view that title to water rights should be perpetual, with access provisions subject to transparent review.

The nature of rights granted to water is also a critical feature of water entitlements, both for the water market generally, but also for individual users. For example, the National Competition Council has noted that there are at least 15 different types of water property rights across the four States in the Murray Darling Basin, and this is a real impediment to trade in water rights because of the difficulty in establishing appropriate 'exchange rates' especially for inter-state trades.[7]

The ARMCANZ recommendation that water rights be expressed as a percentage of the available resource assists to overcome this problem to some extent, however this is not sufficient to overcome uncertainty. Water users require as much certainty as possible about the volume of water they are likely to receive, and when they will receive it. As a result, an ARMCANZ working group has recommended that volume, reliability, tenure and delivery capacity or extraction rate should also be specified, or if this is not possible, then a water right should be appropriately qualified.[8]

The security of a water property right can also be increased by specifying what cannot be done by Government or relevant authorities. Statutory confirmation that changes can only occur in accordance with transparent rules, or that full compensation will be available for anyone disadvantaged by a change provides greater certainty for holders of water rights, and means that the risk-discount applied to the value of water rights that are traded can be reduced. As is common in any market, the greater the transparency of information in the market, the more likely it is that the market will result in resources being allocated to their most efficient use.

What is perhaps unstated in discussions about the nature of rights granted to users is that the same transparency also needs to apply to water rights granted to the environment. The environment is in effect one more user, and if the rules that apply to that water are not transparent, then the rights of other users will be subject to additional uncertainty. If additional water is required for environmental purposes, then at least this should be purchased from others users, or if the transfer is permanent, appropriate compensation provided.

The NCC has proposed that as part of the third tranche assessment, a requirement will be that water rights are clearly specified in terms of volume (a percentage share of the resource and reasonable certainty of the total available resource) and well as reliability and quality where appropriate.[9]

The extent to which a property right is exclusive will be determined by how well the right is specified, with the preferred situation being that all the benefits and costs flowing from the use of the water apply to the owner. This presents a particular challenge for water, as there are a range of 'off-site' benefits and costs associated with water use. For example, tailwater released by an irrigator into a stream becomes water for downstream users, meaning the benefits arising from a specific water allocation are not limited to the owner of the water right. This could be overcome by metering both a users diversions and drainage releases, however "this would not only double the cost of metering, but measurement of drainage would be prone to errors due to rainfall runoff and seepage".[10] Appropriately specifying the water property right should make it largely exclusive, but fully attributing costs and benefits to individual users will not always be possible, and intervention to correct these situations should only occur if the end result is a net community gain.

The extent to which water property rights are enforceable and enforced will have a large impact on the value of those rights, and the care with which they are used and traded.

At one extreme, water users will place no value on water rights if they observe other farmers without water rights illegally extracting water with impunity. At the other end of the scale, if rights of users are strictly policed but Governments arbitrarily change the rules, then again the value that users place on these rights will be severely devalued. There can never be a guarantee that Governments will not change the rules, however unqualified and clear legislated rights to compensation for damage or removal of the rights of water users "outside the rules" provide the nearest thing to a guarantee for users and their financial backers.

7 NCC 2001, *Water Property Rights*, A paper prepared by AFFA and ABARE in conjunction with State Agencies, www.ncc.gov.au.

8 ibid

9 ibid

10 Brennan & Scoccimarro 1999, 'Issues in defining property rights to improve Australian water markets', ABARE 43:1 69.

The creation of a register of water title holders, and with it the establishment of protocols or rules by which trading will be governed will also be an essential feature of a title system that separates rights to water from land title. It has been suggested that using a Torrens Title system administered by the Land Titles office may provide a high degree of certainty about the quality of title being exchanged, although this would be more expensive and cumbersome than a system similar to that used by the Stock Exchange.

Ideally, the preferred system should be dictated by the nature of likely trading. Full sales of water rights (ie permanent transfers) will probably occur in a similar manner and frequency to land sales, however temporary transfers, such as the lease of an entitlement for a period or the sale of a volume of water to meet short-term needs may create quite dynamic short-term markets.

In parallel with the trading system there will be the requirement to meet the operational needs of a water delivery scheme. A scheme manager will need to be able to verify physical transfers of water against the register, even to the extent that inter-state entitlement allocations may be involved. It seems unlikely that a state-based Land Titles system would be able to meet all these requirements. A system resembling that used by the Stock Exchange which can accommodate the guaranteed transfer of a range of different types of equities, and which can provide ready access to information for a wide number of users, is more likely to be appropriate.

The need for rights to be transferable and divisible is an essential feature in order to maximise the wealth that Australian water resources generate. The benefits that can be generated are evident in regions such as Mildura, where Victorian water users have been able to sell part of their entitlements, and use the capital generated to invest in high-precision irrigation technology that allows them to produce as much if not more output using a significantly reduced volume of water.

There are limits on transferability – for example even though an entitlement to a specific volume of water could be sold by a user in the Macquarie Valley to another user in the Murray Valley, if there is no spare capacity to physically deliver the water in the Murray Valley then a transfer such as this may not be possible. There will also need to be systems developed to accommodate transmission losses, for example, a discount may need to be applied in transferring water from the Upper Murray to South Australia.

Some have argued that the social effects of a transfer may also need to be considered, such as the loss of employment in a specific region if a higher value use of water elsewhere results in a transfer of most water entitlements away from that region. It would be unwise to restrict transfers on this basis, as the problem would be no different to the situation faced when there is a decline in the fortunes of a regionally-based commodity, such as beef or wool. If water entitlement holders make a decision that they are better to sell their entitlement to someone who places a higher value on the entitlement, then an unnecessary restriction on this trade occurring is actually a tax on the entitlement holder. The appropriate response for Governments in these situations is to provide adjustment assistance for the impacted region, rather than to impose regulations to restrict resources from being put to better economic use.

Incorporating all these elements into a new water management regime will impose significant demands on State Governments and their agencies, however the promise of a share of the significant funds that are available for payment to the States under the NCP agreements means there is very real pressure on the States to meet these requirements.

The Third Tranche Assessment

The third tranche assessment, currently being carried out by the NCC, will assess the progress that each of the States have made in implementing and continuing to observe the commitments that have been made under the COAG Agreement. The two important elements involved in this assessment from the perspective of water users are the requirements concerning allocations for the environment, and the requirement to establish property rights for water users. The NCC has released guidelines that will be used to assess the progress that has been made by each State.[11]

These guidelines require "States and Territories will have to demonstrate substantial progress in implementing their agreed and endorsed implementation programs. Progress must include at least allocation to the environment in all river systems which have been overallocated, or which are deemed to be stressed."

Twelve principles have been spelt out that the NCC will use to assess compliance with COAG agreements on water for the environment. These include:

- water for ecosystems should be based on the best available scientific information
- environment water provisions should be legally recognised
- in systems where there are existing users, provision of water for ecosystems should go as far as possible to meet the requirements of ecological sustainability, whilst recognising existing rights of water users, and if environmental water allocations are insufficient, reallocation should occur
- accountability for management of environmental water provisions should be transparent and clearly defined
- environment allocations should be responsive to monitoring and continued research
- all relevant stakeholders should be involved in environmental water allocation planning and decision making.

[11] NCC 2001, *Third Tranche Assessment framework*, www.ncc.gov.au

Any proposals for new allocations of water, or for substantial changes such as cross-border trading, will need to have been subject to detailed economic and ecological review, before they are allowed to proceed.

To assess whether COAG commitments have been met concerning water property rights, the NCC will be seeking evidence that States and Territories have in place the necessary policy, legislative and administrative systems to implement a comprehensive system of water property rights for users. A key requirement will be a separation of water property rights from land title. As well, the NCC will be seeking evidence that the rights and responsibilities of Government, users and the environment are detailed, that there is provision for consultation, community involvement and education, and that there is a methodology in place to review sustainability issues.

In addition to the COAG requirements specified in the agreements, the NCC has indicated it will be considering the following issues:

- in establishing rights that are well specified in the long-term sense there is a need to ensure users get the highest possible level of security in regard to the nature of the property right, and absolute security on the issue of ownership
- in relation to ownership, while a 'lease in perpetuity' maximises security, it is not required to meet minimum COAG commitments
- compensation may be payable, for instance, where reductions in reliabilities and other relevant parameters are capricious or disproportionate but this is not a COAG requirement and is the purview of governments
- any constraint on water rights and trade should be based on a sound public benefit justification and be implemented in a way that minimises impacts on efficient trade.

Progress on water reform in NSW

The agenda that has been set by the COAG agreements represents a need for substantial changes to the way that water is managed. For a State such as NSW with different management systems in different valleys and a long history of irrigation development, the change required is probably greater than in most other jurisdictions.

The NSW Government released a report in December 1998, detailing the reforms that had been made in NSW up until that time.[12] Foremost amongst the reforms listed are a range of measures to address environmental issues in relation to the health of rivers and waterways.

Environment commitments

The cap on further diversions agreed by the Murray-Darling Basin Ministerial Committee was implemented as an initial reform, and this effectively stopped any new water diversions from the river systems, and aimed to set a ceiling on diversion rates at the equivalent of the level that existed in 1994.

River Management Committees were established for all the major rivers by 1998, and these committees proceeded to develop and implement environmental flow rules, which resulted in specific allocations and releases of water for environmental purposes, such as periodical flooding of the Macquarie Marshes. These rules have been further refined since that time, and will be incorporated into the water management plans currently being finalised by river management committees. As an interim measure, the Government set an upper limit of 10% on the impact of environmental flows on water allocations on regulated rivers, however this only applies until river management plans have been completed, and did not apply for the Macquarie, Gwydir, Murray and Border Rivers.

The passing of the Water Management Act in November, 2000 gave further support to the concept of environmental flows by giving legislative recognition to three classes of environmental water, which are:

- Environmental Health Water – allocated for fundamental ecosystem health, and is not tradable. This water has the highest priority over other uses.
- Supplementary environmental water – allocated for specific environmental purposes at specified times. This water may be used for other purposes.
- Adaptive environmental water – attributed to an access licence and may be donated or bought especially for an environmental purpose. This water can be traded.

An initial environmental assessment of all the rivers in NSW at a sub-catchment level was released in early 1998. This categorised sub-catchments into nine categories according to levels of environmental stress and the extent of water extraction. This desk-top categorisation has been the basis of decisions on extractions and licence issuing, development of river plans, and the identification of issues that require attention. The Government has acknowledged that this process did not involve scientific data collection or field verification, and will be subject to revision in the future as information is collected and monitoring occurs.

The Government has also established a Healthy Rivers Commission to carry out independent inquiries into the state of rivers. The focus of the commission has been on unregulated coastal rivers, and twelve have been assessed. Again, the process of these inquiries does not appear to have incorporated a significant degree of scientific assessment.

Property rights for water users

A significant component of the COAG water reform agreements was to establish greater security for holders of water entitlements, given the wide recognition that improved security is necessary to encourage increased investment in efficient technology, and to enable trading to occur.

The main elements of increased security for holders of water entitlements were incorporated in the Water Management Act 2000, but these have not yet been implemented.

[12] NSW Government 1998, *NSW Progress on Water Reforms 1995 – 1998*, www.dlwc.nsw.gov.au

The Act foreshadows a separation of current water licences into water access licences (with a share of the resource component and an extraction component) and water use licences, which are specific to an area of land. These are to have a tenure of fifteen years. This separation of water access entitlements from title to land is a major component of the COAG agreement, and a key step in facilitating water trading.

Existing area water licences (a water use licence based on land area rather than water volume) have been converted to volumetric licences so that all water use licences in NSW are more standardised.

The Government has stated that, for the time being, licences and approvals that existed under the old 1912 Water Act will continue, and has foreshadowed that new licencing provisions will not commence until late 2002.[13] The reason given for the delay in implementing these arrangements is the need to establish systems and processes to verify all 130,000 existing licences.

Water Management Plans are currently being finalised by community-based river management committees. These plans are to have a tenure of ten years, with a major review after five years. These plans will establish the amount of water available for extractive uses, and any change within the tenure of a plan that damages the value of a water user's entitlement will trigger compensation. The Government initially proposed some significant loopholes that would have avoided the need to ever pay compensation, however the conditions were significantly tightened when the legislation was progressed through Parliament.

Government representatives on some of the river management committees attempted to get around these tightened compensation provisions by inserting caveats into plans that would have enabled water-users' entitlements to be reduced during the tenure of a plan, without compensation. It required a Press Release from the Minister to clarify that such caveats should not be put into the plans, because they would erode water property rights.[14]

A late amendment to the legislation also imposed a State Water Management Outcomes Plan (SWMOP) developed by Government, as an overarching policy, target-setting and outcomes requirement within which river management committees are required to operate. In effect, this has neutralised the roles of the community committees, as the Government has set a deadline of December 2001 for the Water Management Plans to be completed, but has not yet released the SWMOP. It could well be the case that the SWMOP renders specific river management plans invalid, which could see river management committees going back to the drawing board for the third time to develop plans, without any advance being made on the certainty and security of water use entitlements.

[13] DLWC 2001, *Water Management Act 2000: What it means for NSW*, www.dlwc.nsw.gov.au

[14] Amery 2001, Amery Rejects Caveats in Water Sharing Plans, Press Release 13/9/01.

Little progress appears to have been made on the establishment of a register which would contain details of water use entitlements held by water users, and allow more flexible and transparent water trading to occur, especially interstate trading.

In summary, despite all the changes and planning that has occurred, water users in NSW have little more security and certainty at present about their ability to use water than they had at the start of the COAG process.

The Third Tranche Payments?

The National Competition Council is shortly to release its report on whether the States have implemented the COAG water reform agreements, and are therefore eligible for the increased Commonwealth tranche payments that are due to commence in the current financial year.

NSW appears to have implemented the majority of its environmental requirements under COAG, although the science on which these decisions have been made appears limited. This assessment is reinforced by the large error components and constant revisions to modelling outcomes that committees have had to deal with in developing plans. Many on these committees are highly skeptical of the technical information they have had to work with, and would probably argue that the COAG requirement to utilise the best available scientific information in developing rules for environmental water has simply not been complied with.

On the COAG requirement to develop secure property rights to water, NSW has clearly failed to meet any of the requirements that have been spelt out in the various agreements and guidelines. Water users are increasingly reaching the conclusion that steps to implement these will continue to be delayed, and their existing entitlements will be substantially downgraded before any additional security of title is provided. The result will be the Government avoiding any potential for future compensation payments, and most of the cost for improving the health of water resources being placed on farmers, despite the large public-good component inherent in many of the environmental objectives being targeted. It also goes without saying that the State has not offered to use any tranche payments it receives to provide adjustment assistance for water users facing reduced allocations.

Consequently, it is inconceivable that the NCC could determine that NSW has met all its requirements under the COAG water agreements, especially those relating to secure property rights for water users.

COMMENTS CONTAINED IN THIS DOCUMENT ARE BASED ON INFORMATION AVAILABLE AT TIME OF PUBLICATION.

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