

Water property rights

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Introduction

The need for change

There is increasing evidence that Australia must improve the way it uses and manages its limited water resources. Rising salinity, falling water quality and loss of biodiversity are already affecting key industries such as agriculture and tourism and negatively impacting on regional communities. To minimise further social, environmental and economic effects governments are taking action on a number of fronts as part of their Council of Australian Governments (CoAG) water reform commitments. These commitments include:

- changing the way water charges are set and the level of costs recovered;
- refining existing allocation and water management systems; and
- introducing trading in water rights so that those that can use the water most productively can get access to the resource.

Well defined and sustainable water property rights are a prerequisite for all of the above initiatives. However, in Australia the Crown (governments) has historically owned the rights to all ground and surface water.¹ Governments have then used licences, permits and agreements to share the resource between water users.² However, these entitlements have often been neither well defined nor issued as part of a comprehensive resource management system. This has led to unsustainable use in some areas, uncertainty in others, potentially discouraging sound investments, and limiting water users' ability to buy and sell water entitlements so that those capable of using the water most productively can get access to the resource.³

In addition, until recently water entitlements were tied to a particular piece of land, water storage or irrigation scheme, limiting their ability to be traded

¹ The definitions of surface and groundwater have been historically narrow. Hence the recent legislative changes in Queensland to incorporate overland flows, and in NSW to cover farm dams.

² An exception being riparian rights to use water for stock and domestic purposes which have been implicit with ownership of land title.

³ In the Murray Darling Basin catchment alone there are some 15 different types of property right across four states with the absence of appropriate exchange rates creating impediments to interstate trade due to variability in the quality of property rights.

and giving them no legal status independent of the land or infrastructure to which they were tied. In practice, if a farmers wanted to sell their water right they couldn't do this without selling the farm.

Box 1: What are property rights

A 'property right' exists when the community supports and protects the exclusive use and enjoyment of an entitlement and allows that entitlement to be traded for value. There are many instances where law creates property rights that provide for exclusive use or ownership. For example, land ownership has economic value only where laws limit others from enjoying the benefits of that land without agreement from the owner of the land.

However, it is also common that there are limitations placed on the enjoyment of property rights such that they are rarely unqualified or absolutely certain. For example, land ownership is subject to by-laws and town planning approvals which affect the benefits provided by the right and its value. Similarly, while a person owns a car, its use is qualified by the need to comply with road rules. Neither are rights absolutely certain. For example, governments may compulsorily acquire land.

Towards improved property rights regimes

All States and Territories now have in place legislative frameworks which are an integral part of their efforts to ensure better resource management and to facilitate the allocation and trading of water entitlements. As part of setting up frameworks for allocating and trading water governments agreed to separate "water property rights" from land title and clearly specify entitlements in terms of ownership, volume, reliability and, if appropriate, quality.

Given all States and Territories now have their legislative frameworks in place, it is timely to consider further refinement of what constitutes an effective water property right, its importance in relation to national water trading mechanisms and the CoAG water reform agreement's overall objective of more efficient and sustainable water use.

The purpose of this paper is to provide a brief discussion of the key issues facing policy makers and water users in relation to water property rights. To this end, the paper firstly sets out government commitments and recent work in this area. Secondly, characteristics of a good property right system are

discussed together with the matters the National Competition Council's (NCC) will consider in undertaking the third tranche assessment of State and Territory arrangements. This paper attempts to clarify rather than redefine CoAG commitments drawing on work developed and endorsed by governments.

The efficacy of water property rights arrangements will be a key focus of the NCC's third tranche assessment. Generally speaking, the NCC will be looking for property rights to promote efficient trade and investment with appropriate provision for environmental protection and the needs of communities. This paper applies to both ground water and surface water.

Governments commitments

In 1994, CoAG endorsed a comprehensive framework (the CoAG Framework) for achieving an efficient and sustainable water industry. Water property rights are an essential consideration in the successful implementation of commitments in relation to:

- establishing a comprehensive system of water allocations and entitlements backed by the separation of water property rights from land title and clear specification of entitlements in terms of ownership, volume, reliability and, if appropriate, quality (clause 4(a));
- provision for the environment (clauses 4(b) – 4(f));
- trading in entitlements so that water maximises its contribution to national income (clause 5); and
- ensuring adequate consultation prior to undertaking reform (clause 7(a) and 7(b)).⁴

Recent Work on Water Property Rights

In forming the views contained in this paper, the NCC has drawn on work undertaken by States and Territories to help guide the NCC's interpretation of the sometimes general commitments made by governments in the 1994 CoAG Framework. In particular, the NCC has drawn from:

⁴ A full version of the CoAG water agreement requirements is contained in the NCC's Third Tranche Assessment Framework which is available from the NCC's web site at www.ncc.gov.au or on request from the NCC.

(a) ARMCANZ National Framework Guidelines for the Implementation of Property Rights in water

In October 1995, the Agriculture and Resource Management Council of Australia and New Zealand (ARMCANZ) published a policy position paper titled 'Water Allocations and Entitlements – A National Framework for the implementation of property rights in water' (the ARMCANZ guidelines). The objective of the paper was to report on how a property rights framework in water might be implemented in response to the CoAG reform commitments.

(b) The High Level Steering Group on Water Report on 'A National Approach to Water Trading'

The High Level Steering Group on Water (HLSGW), responsible for intergovernmental co-ordination of water reform, commissioned Marsden Jacob Economic Consultants to develop a national framework for water trading to facilitate the adoption of best practice across jurisdictions. The Report titled 'A National Approach to Water Trading' (the HLSGW Report) will be revised following input by industry stakeholder groups and will be considered by the Standing Committee on Agriculture and Resource Management.

Well defined water rights that encourage efficient trade, use and investment

Well defined property rights are essential for efficient water trade, use and investment. For example, trading will not maximise water's contribution to national income and welfare (and the value of individual water rights) if the instrument being traded is poorly defined. Broadly speaking, efficient trade, use and investment requires that water rights be well specified in terms of both:

- *the nature of the right* - the benefits promised by the water right; and
- *ownership* – the right holders ability to realise those benefits.

The ARMCANZ guidelines note that, as a general rule, the establishment of an efficient market-based system of tradeable property rights in water requires rights to be:

1. in demand (that is, the quantity available is scarce relative to the amount demanded);
2. well specified in the long-term sense;

3. exclusive;
4. enforceable and enforced; and
5. transferable and divisible.

The NCC's view is that the second and third of the points provided by the ARMCANZ guidelines relate principally to clearly specifying the nature of the right, while the fourth and fifth are primarily about ownership.

It is also important to ensure that water trade and use are not pursued to the detriment of the environment, third parties or communities more broadly. To this end, the ARMCANZ guidelines note that rights should be issued and used in a way that is sensitive to the interests of the broader community and the environment. The remainder of this section focuses mainly on the key attributes of property rights that maximise efficient trade, use and investment. The next section considers how safeguards can be put in place to protect community and environmental interests.

In demand

Before considering how water rights should be defined once a market is established, it is worth noting that resources must be scarce relative to demand in order for potential buyers and sellers to consider coming together to form a market. Similarly, the need for detailed resource management is greatest where the demands placed on the resource are high relative to the sustainable level.

In considering the interrelated issues of property rights, trading and resource management, the NCC's third tranche assessment will look for mechanisms to be consistent with the current and expected future demands on the resource. There should be legislative provisions for well defined property rights, robust resource management and efficient trade but the NCC accepts that the practical application of these provisions may be focused on areas where demand is high. The NCC will also expect that where demand is low relative to water availability the appropriate monitoring and administrative measures would be in place to trigger more intensive application of legislative provisions for property rights, resource management and trading as scarcity emerges.

Monopolisation of Water Property Rights

A feature of efficient markets is the useful role intermediaries such as agents and brokers can play in aggregating small quantities of water from a number of licence holders into useful parcels of water for sale. Speculation can be beneficial to trade by making the market place more active and by

minimising fluctuations in price between seasons. It also provides water users with more flexible options for managing risk (for example, via options and futures contracts).

Water trade will be most efficient where there is a large number of atomistic or unrelated buyers and sellers. Given the infancy of water markets, some are concerned that a person or large corporation could 'buy up' the available water rights at the beginning of a season and hold them for long periods of time in order to dominate the market and dictate the price. Other water users then have no option but to pay that price in order to obtain water. The HLSGW Report recognises the scope for market manipulation, and recommends that Governments require full disclosure of market prices and volumes traded and drivers such as water use.

The NCC believes that a national approach is desirable for the regulation of water property rights given the potential importance of interstate trade. Part IV of the *Trade Practices Act 1974* may provide an attractive option, although some issues would require clarification, including whether water property rights constitute 'assets' for the purposes of section 50. Section 50 provides the Australian Competition and Consumer Commission (ACCC) with powers to intervene to prohibit acquisitions of assets that would result in a substantial lessening of competition. For water, the ACCC may be able to use section 50 to intervene where persons or corporates seek to substantially lessen competition in water trading by acquiring large volumes of water property rights in a region. The NCC will continue to explore this issue. The NCC also notes the recommendation of the HLSGW Report that disclosure of information on prices and volumes traded should be maximised subject to the commercial interests of market participants.

Nature of the right

Efficient water trade, use and investment requires that buyers and sellers have a clear understanding of exactly what they are trading. Decisions about water trade, use and investment, particularly over the longer term, are strongly influenced by water users' expectations about the future benefits that their water rights will deliver. Factors impacting on the size and security of these benefits must be clearly and transparently specified to all market participants to achieve efficient water trading.

The issue of the nature of rights in water is difficult. In the past, water rights have often been vague and inconsistently defined. However, there was more security in practice due to links to the ownership of land, often plentiful supplies of water relative to demand, no ability to trade, and area based licences. However, recent efforts to improve the efficiency and sustainability of water use have highlighted the limitations of past arrangements.

In response, the CoAG water reform commitments require that the ownership, volume, reliability and, if appropriate, quality of water rights be well defined. Before considering the issue of ownership two key aspects of clearly defining the nature of the right are considered: well specified in the long term sense and exclusivity.

Well specified in the long term sense

A critical issue in achieving water rights that are ‘well specified in the long term sense’ is that the license holder must be able to form a *reasonable expectation* about the physical quantity of water that the entitlement will deliver over time. This expectation relates to both the average quantity of water a license will deliver each year, along with information about the likely variation around the average.

In relation to volume and reliability, the ARMCANZ guidelines recommends that rights be clearly specified in terms of, among other things, the share of the available resource being allocated.⁵ The HLSGW Report notes the importance of precisely defined rights in terms of volume, reliability, tenure and delivery capacity or extraction rates. The Report also states that where precise definition is not possible rights should be appropriately qualified.

Clear specification of the water likely to be provided by the right does not require perfect information or certainty. The nature of water resources means that perfect or risk free information is impossible. Rather, processes should be in place including robust resource monitoring, planning and reporting so that all market participants can form a reasonable expectation about likely future supplies.

Therefore, simply specifying that the holder of a water license or entitlement will receive a fixed percentage or ‘share’ of available water resources each year does not provide the clear information or certainty. There must also be sufficient information so that a reasonable expectation can be formed about the aggregate quantity of water available and thus the volume of water they will receive.

Arbitrary or non-transparent changes to rules, procedures or institutional arrangements that alter the benefits provided by the right and/or the market price of water are unlikely to be consistent with well-defined property rights. For example, allowing a permanent expansion of water diversions for irrigation in one region can reduce the long-run average quantity of water available to license holders in other regions. This would be inconsistent with

⁵ This could include possible return flows so that the right is specified in terms of net extraction rather than simply the volume of water extracted or the percentage of sustainable yield.

water rights being well-specified in the long-term sense.⁶ Even a significant risk of such changes can increase the risk of holding rights, distort investment decisions and lower the value of the right.

While change is sometimes necessary, it should be based on a sound public benefit or environmental justification and involve appropriate consultation. The interests of existing right holders should be given due consideration. In regard to environmental provisions, CoAG commitments require that environmental contingency allocations be reviewed every five years. To minimise the uncertainty created by these reviews the process for the review and implementation of changes should be transparent and well understood by all actual and potential water users. Regular reporting prior to the review should be sufficient to enable users to form a reasonable expectation about its likely outcome.

Given the above, in addition to appropriate treatment of ownership and constraints for environmental and community needs purposes (which are discussed further below) the NCC's third tranche assessment will look for water rights to be clearly specified in terms of:

- volume (for example, a percentage share of the available resource after the environment has been considered and knowledge of the total available resource over time);
- reliability; and
- quality (where appropriate).

Exclusive

A well-defined property right requires that all of the benefits and costs associated with the use of the good or service it represents are attributed to the owner of the right. In economic terms, this is the same as saying that there are no externalities (good or bad) associated with the use of the right. The presence of externalities can lead to inefficient and unsustainable resource use. Therefore, specification of the right should theoretically include all relevant costs and benefits arising from the application of the right.

This will be the case where all of the benefits and costs associated with using the right are private, and hence are reflected in the market price of the right. Problems arise, however, when the use of a resource is associated with non-

⁶ Remedying these sorts of issues may need joint government action where catchments cross borders otherwise further developments upstream could limit the capacity of downstream supplies to meet existing demand. Hence, the Queensland and New South Wales Governments have recently announced joint arrangements to manage the Border Rivers catchment which affects the interests of both States.

commercial benefits or impose costs on third parties for which the right holder is not liable.

In relation to water, most of the returns from use accrue to the owners of water rights. These right holders, however, may not incur all of the costs associated with the use of that water. For example, the excess runoff and drainage from irrigation may carry nutrients, effluent or salt which adversely affects other farmers or the riverine ecosystem.

Some jurisdictions have justifiably used restrictions on property rights to address environmental externalities. This has included the imposition of regulatory standards requiring irrigators to build water recycling systems so as to reduce nutrient and salt rich run-off. In other cases, irrigators are required to prevent the run-off of animal effluent, or to limit the area that can be planted to particular crops in a given year and/or the type of land some crops can be grown on. The purpose of these restrictions is to limit the potential for irrigation water to seep through to groundwater systems, thereby reducing external costs. More widely, restrictions have been imposed on the transfer of entitlements in environmentally sensitive areas.

From a practical perspective the existence of an externality does not, however, automatically justify intervention or changes to the conditions governing the use of water rights in order to improve the 'exclusiveness' of water rights. Having identified a problem or issue relating to the use of water rights, the key issue is whether or not the total benefits of intervening to address the problem are greater than costs. Jurisdictions should show that third party effects have been adequately considered, and that where water property rights have been altered or amended that this leads to a net community gain.

Ownership

As noted above, clause 4 of the 1994 CoAG Framework requires, among other things, clear specification of water rights in terms of ownership. Uncertainty about the individual right holder's security of tenure can impede efficient trade and investment. Rights covering only a short time or which have significant risk of uncompensated reductions in the share of the available resource provided for the duration of the water right mean that water users are more uncertain about whether they will have access to the water in the future. This can be a significant issue, particularly when considering major investments in assets with long lives with little or no resale value. Key issues in ensuring that water rights' security of ownership is maximised include the duration of the right, ensuring that the right is enforced, the quality of the title and establishing rights that are transferable and divisible.

Duration

There is a widespread view in the water industry that ownership requires 'leases in perpetuity'. For example, the ARMCANZ guidelines state the view that ownership tenure should be perpetual, with conditions of access associated with the entitlements subject to review within an open transparent planning system.

The HLSGW Report also states that water entitlements should be treated as equivalent to a 'lease in perpetuity' balancing the desire of water users for a secure property right and the needs of the community for adaptive management of natural resources. The holder is entitled to continuing access to the entitlement but the reliabilities and other parameters of that entitlement may be amended. Furthermore, the Report also recommended that:

- users should be given the opportunity to play a responsible role in reviewing and amending conditions;
- the approach and triggers for reviewing conditions applicable should be clearly specified; and
- compensation may be payable, for instance, where reductions in reliabilities and other relevant parameters are capricious or disproportionate.

It is the NCC's view that compensation is not a CoAG requirement and is the purview of governments. Further, the NCC supports long term leases and in its third tranche assessment will look for the duration of ownership to be maximised to encompass a reasonable planning horizon subject to adaptive resource management requirements and the needs of the community. The NCC will also consider whether appropriate security of ownership is provided within the term of the lease. This could include a commitment by the jurisdiction to buy back water or pay compensation where additional shares of the available water are needed for the environment.

Enforceable and enforced

Regulations and enforcement systems should exist to ensure that water property rights are upheld. If rights are not clearly defined or if a government does not publicly recognise and enforce a property rights regime, the value of these rights will be reduced and the operation of the market in water rights will be hampered. As noted above, in practical terms, water users are likely to be particularly cautious about how much they would pay for a right of uncertain status and value. As a result, the value of water rights would be lower than in the absence of this risk. Desirably, there should be some responsibility for water management agencies to adequately

specify risks in terms of probabilities of being able to supply the resource according to a set of parameters on future scenarios.

Quality of Title – Registries and Protocols

The unbundling of land and water rights will potentially have a significant impact on the value of these rights. Measures such as registries and protocols need to be in place to ensure appropriate security of ownership. While the separation of water rights from land title is essential for efficient trade, this has the potential to impact on a water user's ability to borrow money, given that agricultural/rural loans have traditionally been secured against land and water tied as one asset. Once land and water are separated, the *value* of each can change. Also, the *certainty of revenue* expected from the water right can change due to the possibility that the water could be sold off a particular piece of land and/or less water allocated due to environmental demands. Further, lenders may perceive that security of both water and land title is diminished and there are higher risks associated with making loans. This would lead to higher risk premiums and higher costs of capital for borrowers. The HLSGW Report states that this may 'undermine' the benefits from the implementation of the broad water reform agenda.

To address this issue the HLSGW Report recommends the establishment and maintenance of *registries and appropriate transfer approval protocols*. Robust, transparent registry systems will also contribute to buyers and sellers having better access to market information reducing the risks to market participants and improving market efficiency.

Registries of water property rights may take a number of forms. These range from a Torrens (or Full) Title system using a Titles Office, to an Old Title system such as a share registry system like the Australian Stock Exchange. Both systems use similar processes with the primary difference being that Torrens Title systems guarantee title absolutely (i.e. an entry on the registry is title). This guarantee provides absolute clarity and certainty to title holders and those holding security interests over title.

The NCC considers there may be a need to establish a national register given the importance of interstate trades such as those in the Murray Darling Basin. A disadvantage of the Torrens Title model is that Titles Offices are all State based. A national register could be created by joint government action or commissioned to a private provider. A significant advantage of a share registry system is that it is less costly and administratively simpler to operate, although the level of security is less than a Torrens Title system.

If governments decide that lending institutions should continue to treat water rights the same as before the separation from land title, tenure and

register procedures should be put in place to ensure the newly created water rights have the same level of risk. However, it is also important that these procedures are not unduly expensive or time consuming which would result in significant transaction costs and constrain lending and water trade.

Therefore, in undertaking its third tranche assessment, the NCC will look for States and Territories to clearly define ownership so as to promote efficient trade and minimise any additional risk premiums on loans made against water rights that may undermine the benefits arising from the broader reform program. To this end, the NCC will look for measures such as cost effective registries and protocols to be in place that encourage efficient lending and trade.

Where share registries are established the NCC will look for consistency within systems that are actually or potentially connected (including between States and Territories where relevant) so as not to impede water trade.

Transferable and divisible

Transferability refers to the ability to transfer ownership of property rights. Transferability of water rights is essential to the establishment of a market and encouragement of efficient resource use. The HLSGW Report also notes the value in the capacity to split and trade water rights across such dimensions as volume and capacity share, delivery capacity, or extraction rate and site use rights.

Protecting environmental and community interests

The above issues are essential in maximising the value of water rights as a tradeable asset. However, as recognised in the ARMCANZ guidelines, the rights of the broader community need to be safeguarded and sustainability assured. This is reflected in the CoAG commitment that water trading should maximise its contribution to national income subject to the *physical, social and environmental constraints of catchments*.

Physical constraints

Constraints on the transfer of water rights may be justified where:

- the transfer is not hydrologically possible;
- the transfer significantly increases transmission losses – thereby attenuating the rights of other license holders; and
- the transfer causes or exacerbates external costs (such as reducing the quality of water owned by other irrigators or the environment).

Environmental constraints

Consistent with CoAG commitments, both the ARMCANZ guidelines and the HLSGW Report recommend that water property rights regimes be consistent with the principle of adaptive resource management. In conducting the third tranche assessment, the NCC will look for water allocations to be linked to an adaptive resource management system that is rigorous, transparent and involves appropriate consultation when change is necessary.⁷

Social constraints

Currently, there is a range of restrictions on trade in water rights in most jurisdictions. Many of these restrictions address equity issues. For example, in some irrigation areas there is a prohibition on 'out of scheme' permanent trade, limits on the volume of water allowed to be traded off-property and a requirement that water for trade be offered to other members of the scheme before it is offered externally. The HLSGW Report notes that arguments for the retention of these restrictions include the potential impact on shire rate bases, environmental impacts on the selling district which may not be adequately covered in resource management plans and the loss of economies of scale within the irrigation scheme. However, these factors need to be weighed against the benefits to those outside the irrigation scheme area as a result of applying the water to high value crops.

It is important that social impacts not be ignored. However, equity issues should ideally be addressed directly, rather than artificially restraining trading. The use of irrigation water is only one aspect of a complex range of factors that affect a region's prosperity. If farmers are struggling, controlling trade in water could significantly disadvantage some in the community and denies the farmers the revenue from the sale of the water without addressing the underlying problems facing the region. Therefore, restricting water trading alone is unlikely to guarantee and may undermine, the prosperity of a community. Phasing in change over time, however, may assist in mitigating social impacts.

The NCC's view is that, as far as possible, water rights regimes should facilitate trading that maximises the value of the resource with any restriction on trade being transparent and based on a sound public benefit justification.

⁷ A detailed discussion of governments' commitments in relation to the environment is provided in a separate background paper.

Conclusion

There is a real need to provide clearly defined property rights to facilitate efficient trade that maximises water's contribution to national income, and encourages more efficient and sustainable water use and investment.

Consistent with second tranche commitments, governments have in place a legislative framework for the determination and trading of water entitlements which recognise consumptive and environmental needs. This has included the separation of water property rights from land title and refining allocation and management systems to ensure that the amount of the resource available for use and trade is sustainable.

In conducting its third tranche assessment, the NCC will look for jurisdictions to provide evidence that their allocation and trading frameworks are leading to more efficient and sustainable water use. With regard to water property rights, the NCC will be looking to test the efficacy of water property rights arrangements. Jurisdictions will need to establish that they have in place arrangements that ensure water rights are well defined and promote efficient trade while making adequate provision for adaptive resource management and the needs of the broader community.

The clear specification of water property rights is crucial to the operation of national trading in water, as well as to the livelihood of individual rights holders. The NCC is looking for legislative and regulatory frameworks that include the establishment of effective property rights and water entitlement regimes within which landholders, irrigation companies and other users can trade efficiently without adverse environmental, third party or broader community effects. Natural resource management objectives and the protection of other third party and broader community interests should be achieved by least cost measures and least impact on trading mechanisms.

In summary, the NCC has raised the following issues:

1. Water property rights should be well specified so as to promote efficient trade, use and investment within the social, physical and ecological constraints of catchments;

2. In establishing rights that are well specified there is a need to ensure water users get:
 - a) the most security they can about the *nature of the property right* so that they are able to form a reasonable expectation of the benefits provided by the right; and
 - b) absolute security on the issue of *ownership* for the duration of the right.
3. In relation to the nature of the right, water property rights should be well specified in the long term sense and exclusive;
4. In relation to ownership, the NCC suggests that the duration of the right should be maximised. Rights should also be enforced and transferable and divisible;
5. The unbundling of land and water rights will potentially have a significant impact on the value of these rights. Measures such as registries and protocols need to be in place to ensure appropriate security of ownership;
6. Consideration should be given to the establishment of a national register of water title;
7. Part IV of the Trade Practices Act may apply to the acquisition of water property rights that result in a substantial lessening of competition;
8. Water rights should be linked to a robust adaptive resource planning system;
9. Any constraints 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, use and investment; and
10. The NCC will be examining the efficacy of water property rights systems for the third tranche assessment.