Chapter 9
Water Reform in the 21st Century: The Changed Status of Australian Agriculture
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Introduction

How is water reform shaping – and re-shaping – rural and regional Australia? What is the importance of water reform in agricultural restructuring? What values should be considered when determining how Australia’s water resources are allocated? These questions are not easily answered in contemporary Australia. In the nation’s political and social spheres, a set of diverse values, other than agricultural production, contribute toward strategies for managing water resources such as other commercial uses (e.g., mining), the needs of environmental assets, recreational interests and domestic water use. The highly contested nature of these issues in Australia was demonstrated by events during October 2010, when a draft water management plan for the Murray-Darling Basin (the Basin Plan) was made publically available. Representatives of the Murray-Darling Basin Authority, an entity with the mandate for overseeing water resource planning in the Murray-Darling Basin (see Figure 9.1), including the drafting of the Basin Plan, met significant opposition from people in regional and rural areas, culminating in copies of the proposed plan being stacked into bonfires and burnt outside public meetings. Much of this opposition focused on the Plan’s proposed reductions, as outlined in the Basin Plan, in the quantity of water available for agricultural use.

Although agriculture is the single biggest user of consumptive water in Australia, 54 percent of total water consumption in 2010-11 (Australian Bureau of Statistics 2012a), in the 21st century it is seen by key policy-makers, and certainly many in the community, as being just one of many different kinds of water uses, that should not be privileged above others. This view represents a significant transformation in the perspectives towards agriculture and water which have historically dominated the Australian polity. Historically, the agricultural industry attracted significant government investment and public subsidies to support its development and expansion. In contemporary Australia, however, the place of water and how it contributes to rural places and people’s livelihoods is being re-negotiated with corresponding impacts for the ways in which farmers are able to access and use water.
Figure 9.1 Murray-Darling Basin and Goulburn-Murray Irrigation District
The specific implications of changed water management structures for farming are complex and vary across regions and industries, but it is not too extreme to suggest that the changes represent a profound shift for this industry. The commercial, agricultural underpinnings of farms still remain a dominant and visible social institution in the countryside, notwithstanding much-discussed rural transformations towards post-productivism and multifunctionality (Holmes 2006). While water reform is the focus of this chapter, it is not the only driver of agricultural and rural change. Water reform occurs alongside a complex web of regional and industry restructuring mediated by other economic, social, environmental and political factors, many discussed elsewhere in this book. Recognising the context of these wider policy decisions, then, in this chapter, we trace the Australian water management reforms that have taken place over the last 50 years, noting how they reflect the changed status of agriculture in Australia. Although these reforms are directed at the water industry as a whole, to date they have focused on the Murray-Darling Basin (see Figure 9.1): the largest and most agriculturally important catchment in the country (producing more than one-third of Australia's food supply). Consequently, our discussion also focuses on the Murray-Darling Basin. While all water systems differ in terms of their geography and hydrology, along with the local economic and social milieu which they support, the approach to managing water in the Murray-Darling Basin reflects Australia's approach to water management more generally.

First, we consider the historical importance of water access and irrigation development to the establishment of Australian agriculture, and we highlight the increased importance that water management has within Australian society and politics. Second, we outline the key governance arrangements concerning water ownership and management in Australia, with a particular focus on the Victorian context, recognising the significant change brought about by the entrance of the Commonwealth Government into water management. These changes have legitimised uses of water other than agriculture, and enabled the redistribution of water resources to these other uses, primarily the environment. To conclude the chapter, we provide a brief case study of how these macro-political changes manifest at the local scale.

Context: The Development of Australian Agriculture and the Role of Water

Water resources and water access have been critical for Australian agriculture since European settlement. The development of ‘permanent’ agriculture, initiated through land selection policies enacted in the final decades of the 19th Century, established a growing population in rural areas. Larger rural populations and the impact of the drought that began in the late 1870s served as impetuses to develop water supply infrastructure and for governing authorities to reconsider water rights. At this time, water rights were founded upon riparian doctrine: the principle that owners of land had a right to make ‘reasonable use’ of water sources
on or adjoining their lands. Large scale irrigation schemes and water storages were progressively developed throughout country Australia, the first at Renmark, South Australia in 1887. These developments established the trajectory of Australian water management over the next 100 years. As argued by Gibbs (2009: 2964), these agendas were guided by an implicit political project characterised by ‘colonial patterns of ordering and transforming nature’.

Throughout this period, country Australia held a privileged position within Australia’s political and societal sphere; contributing toward the nation’s economic prosperity and cultural distinctiveness (Brett 2007). Such a contribution was used to justify substantial government support for the industry through infrastructure development, input subsidies and tariff protection, policies which were maintained for much of the 20th century. Taken together, these constructed what Aitkin (1985) labelled ‘country mindedness’: a bipartisan political convention to support farming as the economic and cultural bedrock of nation-building. This position of privilege, however, began to be questioned throughout the 1970s and 1980s. Since that time, direct government protection and support for agriculture has gradually been removed, and new ways of managing environmental resources, particularly water, have emerged which challenge the colonial foundations (Gibbs 2009) and agriculture’s assumed right to use these resources for production purposes.

**Context: The Increased Importance of Water Management in Australia**

New approaches to water management were not only driven by changed perspectives toward particular industries. Broader environmental management issues such as addressing the causes and impacts of climate change also gained prominence throughout the final decades of the 20th Century. Thus, efforts to manage water resources more effectively also reflect ways in which countries are attempting to address climate change.

In Australia, the increased political and social importance of water is reflected in changes to Australian federal government ministerial portfolios. In the 1970s, the Australian Government appointed its first Minister responsible for the environment. In the 1980s and 1990s, the importance of this portfolio grew in line with the increasingly complex navigation of national environmental decisions, notably the Tasmania Dams case, the safeguarding of the Queensland Wet Tropics, the mining of uranium at Kakadu National Park, national forest planning, and the management of Antarctica and the Southern Ocean. Then, in 2007, the same year Prime Minister Howard enacted the *Water Act 2007 (Commonwealth)*, Malcolm Turnbull was assigned the Environment and Water Resources portfolio, the first ministerial title to directly refer to water. The title reverted to a more generic environment portfolio under the Rudd-led Labour Government, but water was reinstated in a ministerial title under the Gillard Labour Government in 2010 with Tony Burke being appointed Minister for Sustainability, Environment, Water, Population and Communities. Although seemingly minor, such changes
demonstrate the political priorities of successive governments and the increased contemporary significance of water management within Australia. It also reveals the marked change in Australian water governance due to the increased participation of the Federal government, taking over responsibilities that traditionally remained solely with the States. It perhaps even signals the heightened degree of involvement the Commonwealth anticipates having into the future. As will be discussed below, these changes in governance arrangements for water and the environment have brought a return of direct intervention on the part of the federal government in terms of agricultural production.

What must be recognised at the outset, though, is the path dependent nature of approaches to water management, particularly with regard to the Australian context. Australia now has the world’s most advanced water market, which is seen as an exemplar for policies elsewhere (Garrick et al. 2011). Yet its inception in 1983 as a means for managing water resources seems to have occurred in the absence of public debate as to how water resources are best allocated. In subsequent years, a series of incremental regulatory decisions and the piecemeal development of supporting institutions have reinforced this mode of regulation. This has particular importance to the evolved terms of debate on these issues in the 21st Century. What it has meant is that the scope for offering solutions to the now recognised over-allocation of consumptive water is circumscribed – indeed, delimited – to the requirement of being consistent with the concept of a market. Hence, the focus of debate is no longer upon the overall mechanism of water allocation, but rather is directed toward how best to manage this market to achieve economic, social and environmental outcomes.

Recognition of this path dependency and the limits now imposed on future water management decisions raises questions regarding the relevancy of the Australian approach to other nation states and water resources. For example, to what extent can the ‘Australian model’ be applied in contexts where rainfall is more consistent than Australia, or where societal attitudes are resistant to the concept of market regulation? While contextual differences will remain, there are common characteristics of water management that need to be addressed in all water management situations: How should limited water resources be allocated to consumptive and environmental uses? How should water ownership be determined? What role do different levels of government have in managing water resources? Each of these questions will be discussed below from the Australian perspective.

Ownership of Australia’s Water Resources: Constitutional Arrangements

Water, as a resource, is of great social, economic and environmental importance. Hence, under common law it is common property, ‘not especially amenable to private ownership, and best vested in a sovereign state’ (“ICM Agriculture Pty Ltd v The Commonwealth” 2009). In Australia, a federation of partially self-
governing states, management responsibilities for water courses and water resources reside with the state and territory governments, under powers codified by the Australian Constitution. Negotiations prior to Federation were marked by debates concerning the control of water courses, the outcome of which was crucial for an agreement being reached between the colonies. The outcome of agreement resulted in Section 100 being included in the Australian Constitution in 1900, effectively restricting the powers of the Commonwealth concerning water use and delegating management responsibility to the state and territory governments: ‘The Commonwealth shall not, by any law or regulation of trade or commerce, abridge the right of a State or of the residents therein to the reasonable use of the waters of rivers for conservation or irrigation’. These arrangements allowed state governments to implement their own systems of governance for the extraction and use of water passing through their own jurisdictional boundaries, resulting in a series of fragmented water management regulatory systems and practices. What this means for rural Australia, is that the nature of agricultural production systems was not only influenced by place-based characteristics, but was also influenced by the local regulatory regime. In the case of the drier inland areas, water policy and regulation were of great importance for concurrent settlement and agricultural expansion.

Despite these jurisdictional differences, the development of rural Australia was fuelled by a common ideology that viewed agricultural production and intensification as the means by which Australia would achieve national wealth and prosperity. For irrigation regions, then, throughout much of the 20th Century, state and territory governments readily approved licences to extract water, which increased the volume of water diverted from waterways (and ground water sources) and constructed water storages and irrigation infrastructure to facilitate (and encourage) agricultural water use. Thus, irrigators were able to use water largely unrestrained. This provided a basis for agricultural production and its supporting industries tended to dominate rural and regional Australia. It was not until limits to water were imposed, first through government regulation (the Murray-Darling Cap in 1997, see next section) and then through subsequent climatic events (the severest drought for 100 years – approximately 2000-2010) that the legal status of previously issued water licences was tested by the judicial system and the ownership implications of the constitutional arrangements were clarified.

The precise legal nature of water licences is of prime concern for Australian irrigators who design their farming systems and modify their productive practices in response to a myriad factors, including climatic changes, commodity markets, land values, local government regulations, personal and family circumstances and water access. Uncertainty about the reliability of water access (either through natural decrease in rainfall or government intervention) impacts upon the ways in which farmers plan for the future. In turn, this affects the viability of farm systems developed on the basis of sufficient, location-based water availability. Despite there being few instances of case law specifically
involving water licenses, those which have taken place reveal the impact of the constitutional arrangements outlined above. One major judicial decision was that of the High Court in *ICM Agriculture v Commonwealth* in which ICM Agriculture, a large Australian owned agricultural company, challenged a decision of the New South Wales (NSW) Government to change their groundwater bore licences originally granted under the *Water Act 1912 (NSW)* with new licences created under the *Water Act 2000 (NSW)*. At stake for the company was a decision that effectively reduced the amount of water they were permitted to use by up to 70 percent. The High Court ruled against the argument that this reduction amounted to an acquisition of property, determining that the NSW Government had not contravened its constitutional responsibilities, and that they had simply modified a statutory right (“ICM Agriculture Pty Ltd v The Commonwealth” 2009). This decision has particular importance to licence holders as it seems to allow governments the scope to reduce water access entitlements without paying ‘just terms’ compensation (Kildea and Williams 2010). To date, there is limited research that explores farmers’ responses to these court decisions and their perceptions with regard to the security of their water entitlements and water ownership more generally. (The term ‘water entitlement’ is current terminology, replacing previous terminology of water licenses and water rights. A water entitlement is an ongoing entitlement to access to a share of water from a specified consumptive pool.) Nevertheless, it is these constitutional arrangements that frame water management approaches and, as will be discussed in the next section, create challenges when managing inter-jurisdictional water resources.

**Management of Australia’s Water Resources:**

**Inter-jurisdictional Challenges**

The effect of constitutional arrangements is of further contemporary relevance given the difficulties associated with managing inter-jurisdictional river systems. In the Murray-Darling Basin, where the river system passes through four jurisdictions, state governments have long acted in their own interests when regulating the water resources passing through politically constructed boundaries. The Commonwealth was able to manage water courses for the purposes of transportation, trade and commerce, but were specifically not permitted to interfere with irrigation development and, therefore, agricultural expansion pursued by the state governments (see Section 100 of the Australian Constitution quoted above). This feature of past water governance has contributed to a particular kind of ‘competitive federalism’ whereby individual states seek to optimise their water extractions with little regard for others, leading to tendencies for over-extraction and resultant widespread environmental degradation. The scale of these problems first began to be recognised during the 1980s. Yet despite co-operative efforts in the latter years of the 20th Century, effective reform was slow. The
The lingering nature of these problems was further exacerbated by the ‘Millennium Drought’ experienced by much of rural Australia from approximately 2000-2010, although the specific years recognised as drought differ between regions. The drought initiated a degree of water scarcity not experienced by the current generation of farmers, and ushered in heightened complexity with regard to water governance arrangements. These environmental stressors, coupled with political pressure, provided impetus for the Commonwealth Government to directly legislate for water management through the Water Act 2007 (Commonwealth). This legislation over-rode previous strategies based more narrowly on financial incentives and collaborative agreements between the states, as was the case under the National Competition Policy reforms of 1994 (Kildea and Williams 2010). The events of 2007, saw, for the first time, the Commonwealth assert its legislative powers in the management of water. Its legislative intervention in the water management sphere, however, was on the basis of constitutional powers such as trade and commerce, corporations, external affairs, and powers relating to meteorological observations, statistics, weights and measures, rather than state governments referring their water management powers to the Commonwealth. This was insufficient for the Commonwealth to exercise ‘its full legal capacity to define the environmental and economic limits for the management of Australia’s most significant water resource’ (Gardner et al. 2009: 105). Thus, additional co-operative agreements were required. In the following year, the Memorandum of understanding on Murray-Darling Basin Reform and the Intergovernmental Agreement on Murray-Darling Basin Reform were established prior to the passing of the Water Amendment Act 2008 (Commonwealth) in which Basin States (those Australian states through which the Murray-Darling river system passes: Queensland, New South Wales, Victoria and South Australia; see Figure 9.1) referred certain powers to the Commonwealth. Thus, in contradiction to narratives which emphasise a gradual ‘rolling back’ of government involvement in agricultural industries, water reform exemplifies one sphere in which the state has sought to further its reach, albeit within the neo-liberalised contexts of using market mechanisms for managing water resources.

In practice, then, current Australian water management comprises a complex and dynamic network of relations between the Commonwealth, State and Local Governments. These governance structures have shaped and constrained (and will continue to do so) the nature of water management practices (Kildea and Williams 2010). Today, the terms of production for irrigated agriculture are influenced by intervention on the part of the Commonwealth Government within a regulatory system characterised by the legacy of past water entitlement allotments, attempts to standardise the system across jurisdictions, and the overarching premise of market-based regulation. This system contrasts significantly with the previous state-based system in which farmers’ access to water resources was relatively uncontested. The overall impact of these governance arrangements upon individual water users is significant, largely through an administrative system of water licences, water shares and water allocations.
Management of Australia’s Water Resources: Administrative Structures

The establishment of water governance arrangements at a national scale is complemented by an equally complex set of administrative structures and legal rights which relate to the ways in which agricultural operators are granted access to water resources. Historically, these structures have differed between jurisdictions (as discussed above), but increased levels of co-operation since 1994 have been directed at creating a strategic framework that is consistent across jurisdictional boundaries. Despite significant moves to standardise a system of water licences, water entitlements and water allocations, there is still more heterogeneity than can be adequately dealt with here, thus the arrangements discussed here are those that refer to the state of Victoria. Nevertheless, the point is that the changes made by state governments were initiated by Commonwealth Government incentives, resulting in spatial changes over where water resources were applied to land.

Water entitlements associated with a given parcel of land were calculated on the basis of land ownership. As irrigation systems were developed and upgraded, further water entitlements were distributed accordingly. When water trading was introduced in 1989 (temporary trade) and 1991 (permanent trade) (Water Act (Victoria) 1989) the logic of water distribution by way of formulae was disrupted. Under the new arrangements of the legislation, land owners’ water rights could be bought and sold, but had to be associated, or tied, to a land parcel somewhere. From a geographical perspective, this meant that spatial unevenness was able to develop as the ownership and application of water for irrigation became detached from the strict equal-access metrics of the original area-based calculations.

Water entitlements attached to a land parcel gave rise to water allocations (expressed as a percentage of the water entitlement depending upon the amount of water in storage), which was the physical volume of water that an irrigator could use in a given season. Given the abundance of water resources at the time, allocations were maintained at 100 percent. However, many farmers were able to access additional quantities of water through what was known as ‘sales water’, which was an additional quantity of water that was allocated after sufficient water was available to meet water needs in the following season. The outcome of this process was that many farm systems were designed to use more water than the entitlement attached to the land, systems which came under severe pressure during the drought period when the quantity of water available for use was limited.

As a further step in the reform process, consistent with the agenda agreed between the Basin States and the Commonwealth Government, in 2007 Victoria allowed for the legal separation of water title from land title. At this time, the previous entitlement system of water rights and sales water was replaced with water shares that were designated as either ‘high reliability’ or ‘low reliability’. Even cursory consideration of the change in nomenclature indicates a fundamental shift in what statutory rights for water mean. The earlier terminology referred to water as a ‘right’, the current terminology refers to one’s ‘share’ of a water resource pool. However, as a statutory right, neither system sanctioned ‘ownership’ of water.
as a physical resource; rather, users owned the right to access up to that quantum of water subject to the annual allocation decisions of governing authorities. In a context that now recognised new, legitimate water uses such as the environment, this market system comprising water shares and water allocations influences the way in which limited water resources could be redistributed among these different uses, of which, agriculture is but one use.

Agriculture: One of Many Uses for Australia’s Water Resources

Agriculture is no longer a privileged user of Australia’s water resources. This represents a fundamental shift in the place that agriculture holds within Australian society and the economy. It also demonstrates broader demographic and economic changes that have taken place in rural and regional Australia as the countryside becomes not only a place of agricultural production, but a place in which other extractive industries are growing (e.g. mining), a place that can – and perhaps should – be consumed and protected, and a place of cultural importance. This changed status was confirmed in the new water policy paradigm introduced during the 1990s. The new policy framework represented a reversal of past approaches to water management which had typically focused upon managing water supply; now, the focus was upon managing demand (Bjornlund and Rossini 2010). Water users, other than agricultural irrigators, became legitimate users of scarce water resources. The net result was less water being available for agricultural operators which demanded greater water efficiency on farms and created opportunities for farmers to manage their land/water assets and farm systems in new ways. In particular, ‘the environment’ gained prominence as a worthy recipient of water. The legitimacy of specifically allocating water to the environment was acknowledged by the Howard Coalition Government and played a strong part in Murray-Darling water management by the Rudd and Gillard Labour Governments (2007 onwards). In this section, we review the policy changes that demonstrate this re-organisation of priorities in water management.

Formal recognition of the environment as a legitimate ‘user’ and recipient of water was made at the Council of Australian Governments (CoAG) meeting in 1994 where state governments agreed to reforms for the water industry, including reforms to resolve river catchments that had been over allocated. The new process would specifically address water pricing, elimination of cross subsidies and transparency in subsidies, allocation of water for the environment, water allocation and entitlement more generally (Council of Australian Governments 1994). Direct action to address the over-allocation of water resources in the Murray-Darling Basin was first imposed the following year, in 1995 when the Murray-Darling Basin Ministerial Council introduced a moratorium on future water extractions. This was followed by ‘The Cap’ which limited water extractions from many river systems to 1993/94 levels of development (Murray-Darling Basin Commission 1998). Water resources for consumptive uses were now officially
limited, heralding the creation of imposed scarcity on this natural resource and ending the era with which agriculturalists could use water without restraint. Yet, basic recognition of legitimacy to use water did little to fundamentally re-distribute water; direct intervention and market participation on the part of the Commonwealth Government was required.

The importance of deliberate management of water resources to meet environmental needs was behind the Commonwealth’s intervention into water matters through the Water Act 2007 (Commonwealth). Aside from the marked change that this represented in terms of the Commonwealth’s involvement in water management, this legislative move was also significant for the importance placed on effectively managing water for the environment, alongside economic and social needs (Water Act 2007 (Commonwealth)). However, the maximisation of ‘the net economic returns to the Australian community from the use and management of the Basin water resources’ (Water Act 2007 (Commonwealth) Section 3d(iii)) is subject to ensuring that unsustainable levels of water extraction are returned to environmentally sustainable levels and, also, contingent upon the protection, restoration and provision of ecological values and ecosystem services. In sum then, the changed legislative landscape prescribed a situation whereby people living in rural areas, especially those living in areas highly dependent on water resources, would have access to fewer water resources than they did in the past.

To enact this legislation, the Water Act also provided for the formation of the politically independent Murray-Darling Basin Authority (MDBA), subsuming the responsibilities of the former Murray-Darling Basin Commission. Most crucially – at least in the short term – the MDBA was charged with preparing a strategic plan for the management of water resources in the Basin that would convert the aspirations of legislation into concrete decisions. This involved the development of defensible long-term average sustainable diversion limits for the Basin and its parts, limits which ‘must reflect an environmentally sustainable level of take’ (Water Act 2007 (Commonwealth) Section 21). Within these terms of reference the MDBA prepared The Guide to the Basin Plan in which the Authority proposed to reduce annual consumptive water use by 3,000 to 4,000 gigalitres (1 gigalitre (GL) = 1 billion litres), out of a total average level of 15,400 GL across the whole Basin (Murray-Darling Basin Authority 2010a). This proposal enunciated a clear break from the existing water governance regime, established through ‘The Cap’ in 1997. Whereas the purpose of ‘The Cap’ was to prevent the quantity of water extracted from increasing (Murray-Darling Basin Commission 1998), the 2010 proposals specified a deliberate decrease in water diversions.

Authority representatives introduced their proposals to rural communities in October 2010 through a series of public meetings at which irrigators and others living in these areas voiced their intense opposition to the proposals. They contended that the economic and social impacts of the proposal had not been fully examined. Clearly, much was at stake. The strength of the response from rural Australia resulted in the Commonwealth ordering a revision of the plan and the Commonwealth House of Representatives forming of a Standing Committee
Inquiry (‘The Windsor Inquiry’) into the impact upon regional Australia should the proposed Basin Plan be implemented (House of Representatives Standing Committee on Regional Australia 2011). The revised plan was signed into law by the Minister for Sustainability, Environment, Water, Population and Communities, Tony Burke, in November 2012.

Preceding the release of the final Basin Plan and empowered by the Water Amendment Act 2008 (Commonwealth), the Commonwealth embarked on a large-scale plan of water buybacks, via a tender process, from willing sellers (largely agricultural irrigators). The programme – titled Restoring the Balance – is part of the Commonwealth’s long-term Water for the Future initiative to ‘better balance the water needs of communities, farmers and the environment’ (Department of Sustainability, Environment, Water, Population and Communities 2010a). As at 30 November 2012, 1,331 GL of entitlements had been secured, including an annual average volume of 1,094 GL available for the environment (Department of Sustainability, Environment Water, Population and Communities 2012). For rural Australia, the delivery of the Basin Plan and commencement of water buybacks represented direct government intervention into the market-based terms of production following the gradual withdrawal of government support and subsidies for agricultural production under which irrigators have been operating since the 1980s. Indeed, the Commonwealth Government views the Water for the Future programme as ‘the largest single agricultural adjustment program in Australia’s history’ (Australian Government 2011: 2).

The involvement of the Commonwealth Government in agricultural restructuring via water markets is demonstrated through a key institutional change that was necessary to enable Restoring the Balance to be implemented. The Commonwealth Environmental Water Holder (CEWH) was established to manage the Commonwealth’s water resources for protecting or restoring ‘the environmental assets of the Murray-Darling Basin and other areas outside the Murray-Darling Basin where the Commonwealth holds water’ (Water Act 2007 (Commonwealth) Sections 104 and 105). To achieve this, the CEWH is able to exercise ‘any powers of the Commonwealth to purchase, dispose of and otherwise deal in water and water access rights, water delivery rights or irrigation rights’ (Water Act 2007 (Commonwealth) Section 105). The creation of the CEWH effectively introduces the Commonwealth Government, on behalf of the environment, as an active participant in the water market, unlike the previous situation in which the Government’s role was primarily regulatory.

The strategy of reducing diversions through buybacks is augmented by water efficiency infrastructure spending from the Commonwealth. The co-existence of these two arms of water governance represents quite differing – some may say contradictory – approaches to sustainability within the Basin. Water efficiency spending is undertaken through the Sustainable Rural Water Use and Infrastructure Program (SRWUIP), which was budgeted $5.8 billion with an emphasis on renewal of irrigation infrastructure on and off-farm (Department of Sustainability, Environment, Water, Population and Communities 2010b). So at
the same time that the Commonwealth (through the CEWH) is purchasing water entitlements and, thus, reducing the quantum of water potentially diverted from the river courses of the Basin, it is expending resources on those who retain their entitlements so that they can use water more efficiently.

Case Study: Goulburn-Murray Irrigation District, Victoria

Prior to concluding this chapter, a brief case study of one irrigation area – Goulburn-Murray Irrigation District, Victoria – is presented to illustrate the ways in which the macro-political changes outlined above manifest at the local scale, most notably through the water buyback programme which provided opportunities for farmers to sell all or part of their water shares at a time when agriculture was under severe pressure from the drought, enabling them to remain farming or exit farming altogether (Cheesman and Wheeler 2012).

The Goulburn-Murray Irrigation District (GMID) is located in northern Victoria. Irrigation water and infrastructure is managed by Goulburn-Murray Water (GMW), a statutory corporation which manages irrigation systems, primarily flowing through two major water systems: the Goulburn System, sourced from Lake Eildon; and the Murray System, sourced from Lake Hume and the Dartmouth Dam. Agriculture in the region is dominated by dairying and horticulture. Officially the drought was considered to have begun in this region in 1997 (Department of Sustainability and Environment 2009). Since then, this region has undergone significant change in terms of the structure of the agricultural industry and land use, influenced by the changed priorities for water and governance arrangements outlined above. Water reform alone has not created these changes in a causal sense; indeed, it is impossible to disentangle the exact impacts of particular policy shifts from broader contextual factors, in particular the drought and commodity markets. What seems apparent though is that the heightened degree of Commonwealth intervention in water allocation has played a role in altering the nature of this region, and provided irrigators with opportunities to modify their water ownership.

The effects of the drought were not immediately felt because of the large-scale water storages which delayed reductions in water allocations until 2002 for farmers connected to the Goulburn System and 2006 for farmers on the Murray System (Goulburn-Murray Water 2012a). It would be another four years, however, before significant rainfall and storages were replenished. In the intervening years the Commonwealth Government commenced its water buyback programme, issuing the first tender in which GMID irrigators could participate in February 2008.

Water market activity, including government purchases of water for the environment and private sales, alongside water savings achieved through irrigation modernisation, have resulted in a net reduction of water shares held within the GMID. Prior to permanent water trading, there were 1,620 GL of high
reliability water shares in the GMID; this had decreased slightly by 1998 (just prior to the drought) to 1,601 GL. Fourteen years later (April 2012), 1,096 GL of high reliability water shares remained, representing a 35 percent reduction since immediately prior to the drought (Goulburn-Murray Water 2012b). The Commonwealth Environmental Water Holder has secured approximately 60 percent (299.5 GL as at January 2012) of the water that has been traded out of the GMID (Goulburn-Murray Water 2012b). Although this process was voluntary on the part of irrigators, it demonstrates a marked shift in the way in which the Commonwealth Government interacts with irrigators, from a position where it encourages water use and agricultural production, to one where it positions itself as a purchaser of those same irrigator water entitlements that were originally distributed by government to encourage agricultural production. The net effect is to reduce the consumptive pool of water available to irrigators; although additional factors such as agricultural industry, broader local economies and climatic changes will influence which regions experience a net increase or net decrease in the amount of water held by irrigators.

The combination of drought and reduced consumptive water (combined with fluctuations in commodity markets) has resulted in 'significant structural change in the location and type of irrigated agriculture throughout the GMID' (HMC Property Group 2010: 5). Dairying and horticultural enterprises have been the dominant water users throughout the region during the drought, while mixed farming operations have declined significantly (Murray-Darling Basin Authority 2010b). Furthermore, a study which investigated changing land use in the GMID between 2006 and 2010 revealed that the most marked change was the amount of land now lying idle, that was previously operated for dairying purposes. The reduction in working dairies across the region is estimated to have been approximately 29 percent across the four year timeframe under investigation (HMC Property Group 2010). Changes to dairy farm systems have also occurred, such as an increased reliance on annual crops and pastures, rather than the traditional system of permanent pasture. Such changes alter the volume and timing of farmers’ water requirements (Murray-Darling Basin Authority 2010b).

In addition, the landscape is being fundamentally reconfigured via a Commonwealth and Victorian Government funded irrigation modernisation programme in order to reduce the irrigation footprint through decommissioning under-utilised assets and upgrading to more efficient water delivery infrastructure (Northern Victoria Irrigation Renewal Project 2012). This irrigation modernisation project was an outcome of the Murray-Darling Reform Intergovernmental Agreement in 2008. In the second phase of this project, the Commonwealth agreed to contribute funding on the basis of being able to purchase for the environment the total anticipated water savings (approximately 204 GL) The 50 percent reduction of the length of irrigation channelling achieved through this project contrasts starkly to the large-scale government-sponsored expansion of agricultural which established the infrastructure in this region throughout the first half of the 20th Century. Reducing the irrigation footprint and re-distributing water to the
environment demonstrates the ideological shifts toward water management and distribution that have occurred in the last ten years and which will determine the possible paths for agricultural restructuring in the future.

**Conclusion**

Australian agriculture has been subject to myriad pressures for some time – key among them has been access to water. Traditional post-war challenges such as escalating costs of production seem likely to continue for farm operators, but new challenges are also surfacing such as the much more recently contested nature of natural resources as other, non-productive values, such as the environment, gain increased legitimacy and shape policy for rural and regional Australia. The societal changes and the ensuing regulatory modifications associated with water management that have been discussed in this chapter occurred at the same time as agriculturalists experienced a severe, prolonged period of drought. Ascribing causality between these events is unhelpful, nevertheless the limits to water resources imposed by climatic conditions no doubt expedited the actions of the Commonwealth Government, creating a much more complex governance structure in which agriculturalists needed to operate.

Once considered the foundation on which national prosperity was built and a significant contributor to the national identity, the role of agricultural production in Australia has changed and it will likely undergo further change in the future. Agriculture has been re-positioned as one of many users of environmental resources. Yet, just over half of Australia’s land area is used for some form of agricultural production (Australian Bureau of Statistics 2012b), so its role and importance in resource allocation debates remain. The environmental agenda is being worked and re-worked through shifting societal values and changes to governance structures. Indeed, it should be noted that comprehensive resolutions have not been met in all rural areas and for all agricultural operators. Rather, these reforms are ongoing, and many more significant decisions are yet to be made.

The Australian experience to date, demonstrates the path-dependent and constrained nature in which contemporary water reform can take place. Practical advancement of the environmental agenda to address historical over-allocation of water resources required government intervention at the Federal level. Thus, the neoliberal economic agenda pursued by the Australian Government since the 1980s, has been applied to the management of the nation’s resources. Legislation has empowered the Commonwealth Government as a market participant to re-distribute water from agriculturalists to the environment. Somewhat differently, substantial government support by way of subsidised infrastructure programmes has re-emerged in the context of new ways to manage water (and many other environmental resources) which are challenging the long assumed right to their use on the part of agriculture. ‘Patterns of ordering and transforming nature’ remain,
but within a different paradigm, in which the environment is prioritised. These events of the first decade in the 21st Century coalesced to create vastly different terms of production for agriculturists. Indeed, the extent of regulatory change and the on-going re-organisation of water governance structures have potentially created a vastly different rural and regional Australia for the future.

References


Department of Sustainability and Environment, 2009, *Northern Region Sustainable Water Strategy*, Melbourne: State of Victoria, Department of Sustainability and Environment.


Water Amendment Act, 2008, (Commonwealth), Act No. 139, Canberra, ComLaw.