10

Water resources

Introduction

10.1 Australia is the world's driest inhabited landmass. The extent to which water is a limited resource in Australia is illustrated by the fact that the annual flow of the nation's largest river system, the Murray-Darling, is equivalent to the flow of the Amazon River for 25 hours.[1] The development of Australia's society and economic zones has largely been shaped by the nature of its land and water resources.[2] The vast majority of the nation's population is situated along the eastern seaboard, where water is readily available.

10.2 Water is one of Australia's largest industries, with water infrastructure assets worth over $90 billion in replacement cost. Around $50 billion of this infrastructure is in urban areas. While rural and regional areas account for less than half of Australia's water infrastructure, around 70 per cent of Australia's water resources are used for irrigated agriculture.[3]

10.3 In the years following World War II, Australia undertook a massive national dam-building program. While Australia now has the highest per capita water storage in the world, the water is concentrated in a few large storages located mainly along the Great Dividing Range (with the exception of Lake Argyle in north west Western Australia).[4] Dam building virtually ended when water policy underwent substantial changes in line

1 Agriculture, Fisheries and Forestry Australia, Submission no. 253, Attachment A, p. 19.

2 J F Thomas, *Water and the Australian Economy*, Australian Academy of Technological Sciences and Engineering and the Institution of Engineers, Australia, April 1999, p. 11.

3 Report of the Working Group on Water Resource Policy to the Council of Australian Governments, February 1994, p. 5.

4 State of the Environment Advisory Council, *State of the Environment Australia 1996*, CSIRO Publishing, 1996, chapter 7, p. 8.

with the development of national competition policy and national policies on environmental sustainability.

10.4 This chapter examines the impact that sufficient water resource infrastructure, or lack thereof, has on regional communities. It also looks at the role of the Commonwealth and state and territory governments, and the impact national competition policy water reforms have had on water infrastructure investment. The chapter looks at how investment in new and upgraded water infrastructure can be encouraged, and the need for a national plan for development of water infrastructure in Australia.

Previous studies

10.5 The health, management and development of Australia's water resources have been the subject of a number of national studies in recent years. The committee has drawn on these studies in its research, and notes in particular the following reports:

- *Water and the Australian Economy* – Australian Academy of Technological Services and Engineering;[5]
- *Salinity Audit of the Murray-Darling Basin* – Murray Darling Basin Ministerial Council;[6]
- *State of the Environment Australia 1996* – State of the Environment Advisory Council;[7] and
- *Water Resources and Wastewater Disposal* – Industry Commission.[8]

Benefits of water resources infrastructure

10.6 Many submissions highlighted the need for good quality, reliable water supplies in regional areas throughout Australia. Water is needed for agricultural, industrial and urban development, and is the underpinning for many other growth activities in regions. According to the National Farmers' Federation (NFF),

---

5 J F Thomas, *Water and the Australian Economy*, Australian Academy of Technological Sciences and Engineering and the Institution of Engineers, Australia, April 1999.

6 Murray-Darling Basin Ministerial Council, *The Salinity Audit of the Murray-Darling Basin*, Murray-Darling Basin Commission, October 1999.

7 State of the Environment Advisory Council, *State of the Environment Australia 1996*, CSIRO Publishing, 1996.

8 Industry Commission, *Water resources and Wastewater disposal*, AGPS, 1992.

> A feature of the spread of agriculture in Australia has been the regulation of rivers to provide reliable water supplies for stock and domestic use and irrigation. Investment in rural water infrastructure has had a high local multiplier effect in supporting regional development. Water is a major national resource and is a critical factor in Australia's agricultural competitive advantage.[9]

10.7 Through submissions and its visits to regional areas, the committee saw a number of examples where investment in water infrastructure has resulted in improved economic and social conditions through support for new industries and investment in regions. While dams may not be economically viable when first built, their eventual contribution to regional development is very substantial. Emerald's Fairbairn dam provides an example.

Box 10.1: Fairbairn Dam, Emerald, Queensland

The Emerald Irrigation Scheme was developed in the late 1960s and 1970s, involving construction of the Fairbairn Dam and weirs and channels for irrigation, industrial and urban use. The Commonwealth government provided funds for construction of the Fairbairn Dam, with the state government covering all other works. The benefits of the Emerald Irrigation Scheme have included:

- population increase in Emerald from 2 000 in 1966 to 11 000 in 1999;
- 25 000 hectares of irrigated farmland producing cotton, peanuts, horticulture, grain and beef;
- supply of domestic water to 6 towns and industrial water for coal mining;
- unemployment in the region steady at below 5 per cent; and
- development of supporting industries in the area including retail, health and welfare services, government agencies, education to tertiary level, sporting facilities and tourism development.

Source: Queensland Government, submission no. 257, Attachment 1. Queensland Nationals, submission no. 146, p. 2. Committee's visit to the Emerald region, 28-29 April 1999.

9 National Farmers' Federation, Submission no. 238, p. 32.

10.8 Irrigated agriculture makes a significant contribution to Australia's economy. As well as supplying almost all of Australia's domestic requirements for fresh fruit and vegetables, sugar, rice, wine and dairy products, irrigated agriculture contributes 6.5 per cent of total Australian exports, or almost one-third of all farm exports.[10] Murrumbidgee Irrigation Ltd highlighted the benefits resulting from increased irrigated agriculture, estimating that employment in irrigation farming has a multiplier effect of 4.74. Without irrigation, the population of the Murrumbidgee Irrigation Area (currently 50 000) would be less than 2 000.[11]

10.9 The *Water and the Australian Economy* report asserted that the dominant driver of demand for water in Australia to 2020 will be irrigated agriculture. According to the report, the water requirements of the irrigated agriculture sector could increase by 50 per cent by 2020 (based on current trends).[12]

10.10 The committee received a number of submissions outlining the benefits that would flow to regional communities as a result of investment in water infrastructure. For example, the Northern Territory government estimated that irrigated agriculture lands could increase ten-fold if 800 000 megalitres of water could be harvested and stored. The government envisages that cotton, sugar, mangoes, bananas and nursery plants could be grown on the irrigated land. The water could also be used to support industries such as Liquefied Natural Gas plants and manufacturing.[13]

10.11 The Hell's Gate dam, proposed for the Burdekin River in Queensland, would provide over $740 million in increased agricultural production per annum, and generate 20 000 permanent jobs in the region, according to the Hell's Gate Development Council. The submission also claimed the dam would 'rescue' the towns of Charters Towers and Bowen, and provide flow-on effects such as a new power station and fast-cat ferry service from northern Queensland to Asia.[14]

---

10 J F Thomas, *Water and the Australian Economy*, Australian Academy of Technological Sciences and Engineering and the Institution of Engineers, Australia, p. 68.

11 Murrumbidgee Irrigation Ltd, Submission no. 52, p. 5.

12 J F Thomas, *Water and the Australian Economy*, Australian Academy of Technological Sciences and Engineering and the Institution of Engineers, Australia, April 1999, p. 111.

13 Northern Territory government, Submission no. 232, p. 97.

14 Hell's Gates Development Council, Attachment to Submission from Bob Katter, MP, Submission no. 32, p. 17.

Emerging and growing industries

10.12 Many of Australia's agricultural producers are looking to new markets in order to remain sustainable and competitive in world markets. The New South Wales government told the committee that access to water infrastructure is a vital part of producers' ability to tap into new markets:

> Water quality, access to water, and the quantum of water is a particularly critical issue for ongoing development in the inland region, especially in dryland areas that have a major issue with new crops coming on, olives, aquaculture, irrigated grapes for wine production, this sort of thing—also herbs and Asian vegetables.
>
> One of the issues about it is that a lot of these are aimed at either import replacement or export markets and a lot of it hopefully will end up on the tables of Asia as it continues to grow, and also as our own population expands. … the longer term issue about this basically is that there has to be more water if we are going to stay "Supermarket to Asia" from an effective base.[15]

10.13 The AFFA submission pointed out the importance of water resources and other infrastructure (particularly transport) for developing Australia's aquaculture industry in inland locations. AFFA noted that the aquaculture industry is currently centred in remote and rural coastal areas, and contributes significantly to the development of infrastructure and regional employment in areas with traditionally low employment opportunities. **Aquaculture currently provides some 5 500 direct jobs in rural and remote Australia, predicted to increase to 10 000 by 2005.**

10.14 AFFA identified inland aquaculture as an industry ideally suited to make use of existing farm infrastructure, subject to tests of environmental sustainability. The submission stated that:

> With rising levels of salinity and rising costs of fresh water in irrigation areas an industry that can add value through the use of existing infrastructure and water inputs and reduce salination will be valuable to farmers.[16]

10.15 According to another submission, the potential for a profitable new fish farming that could use saline inland waters is huge, encompassing farmed fish, crustaceans and molluscs, processing and marketing of these products and a new fish feed industry based on Australian grains and

15 New South Wales government, Transcript of Evidence, 27 September 1999, p. 186-187.

16 Agriculture, Fisheries and Forestry Australia, Submission no. 253, p. 9.

new pulse crops (legumes). The new industry could integrate well with cropping (such as rice) in irrigation areas, livestock (in both irrigation and dryland areas), agroforestry and plantations, and could make a major contribution to rehabilitation and reclamation of salted land. Minimum additional infrastructure is required on farms in irrigation areas and opportunities now exist in five states involving most of inland New South Wales and Victoria, the southern border area of Queensland and large areas of salted land in South Australia and Western Australia. Ventures could either be fully privately funded, funded through partnerships between farmers and investors with marketing and processing expertise, or a combination of aquaculture and agriculture interests, 'in the Israeli-style "agri-aquacultural systems", with multiple uses of fresh or salty water.'[17]

10.16 AFFA's emphasis on developing industries that are environmentally sustainable is supported by the CSIRO, which argues that there is an increasing worldwide demand for clean and green produce. Better planning and changes in land management practices, such as increasing stock watering points to spread out grazing, are needed to ensure clean and green produce.[18]

10.17 Studies are being conducted at state level in Victoria to examine the question of water trading in order to promote expansion of high-value and more environmentally sustainable agriculture. At a private meeting at Mt Buller, the committee heard that tourism is also a major growth industry in the region and that the region's future is dependent on developing an appropriate water policy framework based on full and open competition, and management on a total catchment basis. Streamflow management plans and consideration of environmental flows are needed to provide better quantification of the volume of available water. Issues needing resolution include:

- permanent, temporary or long term leasing of water rights;
- Murray Darling Basin management arrangements including the 'cap' and rehabilitation of irrigation infrastructure (for example, through pipelines);
- security of private rights to water including for irrigation areas, for the purposes of attracting investment in high value crops;
- the need for local government involvement in, and agreement to, integrated land use planning and guidelines for economically

17 Geoff and Mary Wilson, Submission no. 2, pp 1-3, 10.

18 'Go clean and green, CSIRO tells farmers', *The Age*, Tuesday, 11 January 2000, p. A4.

sustainable development to prevent inappropriate development, for example, irrigation in saline areas, tourism developments; and

- access to and cost of water, including whether purchase of water or drainage diversion licences are options.

10.18 The Commonwealth had an important role in facilitating:

- interjurisdictional cooperation to ensure integrated land use planning (in particular, for the Murray Darling Basin);
- training and farm extension for new industries;
- community leadership; and
- the investment environment.

Investment proposals

10.19 Many submissions and evidence before the committee outlined specific proposals for development of water infrastructure projects across the nation (such as the Hell's Gate Dam proposal).

10.20 The committee believes that the majority of these proposals would indeed result in economic and social benefits for rural and regional communities, but notes national requirements for economic and environmental sustainability before new projects can go ahead. In relation to water infrastructure, the committee used this inquiry to look at the role of government in attracting and facilitating investment for water infrastructure in regional areas.

Water infrastructure: institutional arrangements and reform

10.21 Under Australia's Constitution (Section 100), the states have primary responsibility for the management and development of water resources. Therefore, each state and territory has developed its own institutional and administrative arrangements for water resources. However, the states have worked together on a number of issues, and according to the Institution of Engineers, 'the [20th] century has been characterised by cooperation and agreement concerning water resources rather than

conflict and competition'.[19] Table 10.1 outlines the major national developments in water resource management since Federation.

Table 10.1 Developments in water resource management since Federation

Year	Major Development
1902	Interstate commission established to report on the use of water from the River Murray.
1914	River Murray Waters Agreement made between the Commonwealth, New South Wales, Victoria and South Australia.
1946-47	Border Rivers Commission established to develop shared water resources between New South Wales and Queensland.
1949	Snowy Mountains scheme begun.
1962	Australian Water Resources Council established to assess and plan for Australia's water resources.
1987	*Water 2000*, a major review of Australia's water resources and their use, released by the Commonwealth government.
1992	Murray Darling Basin Agreement signed between New South Wales, Victoria, and South Australia (Queensland and Australian Capital Territory later signed to the Agreement).
1992	Commonwealth government releases the National Strategy for Ecologically Sustainable Development, which requires all government departments to consider environmental issues when planning works or policy initiatives.
1994	Working Group on Water Resources Policy reports to the Council of Australian Governments (COAG) on a water reform framework for Australia.
1995	COAG agrees to National Competition Policy, including the water reform framework, states and territories begin implementing changes.

Source: Boughton, W (ed), A Century of Water Resources Development in Australia 1900-1999, the Institution of Engineers, Australia, 1999, preface.

10.22 David Smith (1999) noted that most research on water resource development in Australia fails to take into account Aboriginal use of water and how water resources should be included in native title agreements.[20]

The role of the Commonwealth government

10.23 While not directly involved with planning or developing water infrastructure projects, the Commonwealth provides leadership and development of national water policies and water research programs. A key example of this is the Natural Heritage Trust, through which around $1.5 billion is being distributed for natural resource management projects throughout Australia. Some of these projects have involved improvements to water resource management, such as closing open irrigation channels

19 W Boughton, (ed), *A Century of Water Resources Development in Australia 1900-1999*, Institution of Engineers Australia, 1999, preface.

20 D Smith, *Water in Australia*, Oxford University Press Australia, Melbourne, 1998, p. 139.

and capping artesian bores, catchment management activities, and community education on better land and water management practices.

10.24 While the Commonwealth does not ordinarily invest in water infrastructure projects, it may do so if the project is deemed to be in the national interest. The submission from AFFA outlined the Commonwealth's policy on water infrastructure investment:

> The rationale for Commonwealth investment continues to be to achieve significant national benefits through addressing issues of national priority and also to stimulate associated reform processes. The benefits achieved must be public rather than private benefits and include outcomes such as improving the quality of water supply in remote rural areas, reducing environmental degradation and the provision of key infrastructure, particularly for storing water.[21]

10.25 The key bodies through which the Commonwealth government contributes to water resource management are outlined below.

Agriculture and Resource Management Council of Australia and New Zealand (ARMCANZ)

10.26 The Agriculture and Resource Management Council of Australia and New Zealand (ARMCANZ) involves the Commonwealth, state and territory and New Zealand ministers for agriculture, soil, water (both rural and urban) and rural adjustment policy. The objective of ARMCANZ is to develop integrated policies and strategies on issues such as agriculture, soil, water and rural adjustment. ARMCANZ, through its supporting body, the Standing Council on Agriculture and Resource Management, has also made an important contribution to implementation of the COAG Water Reform Framework (outlined below).

National Land and Water Resources Audit

10.27 The National Land and Water Resources Audit (NLWRA) is a program funded under the Natural Heritage Trust to the value of $29.4 million over four years to June 2001. The Agriculture, Fisheries and Forestry portfolio administers the NLWRA but non-government researchers who win projects by tender undertake the audits. The NLWRA aims to provide

21 Agriculture, Fisheries and Forestry Australia, Submission no. 253, Attachment A, p. 19.

comprehensive national data on the state of Australia's vegetation and water resources, and a framework for presenting and updating this data.[22]

10.28 The NLWRA, through the *Water Resources and Management* project, is examining the current status of Australia's water resources, infrastructure and management practices, including potentially divertible water resources under a 'maximum infrastructure' scenario.[23] A draft report is expected in March 2000, with a final report available around the middle of the year.

10.29 The NLWRA is also developing a two-stage assessment process for all proposed water infrastructure projects through the *Large Water Resource Developments – An Integrated Assessment Process* project,[24] discussed further in paragraphs 10.94-10.99**.**

10.30 The Environmental Research and Information Consortium (ERIC) argued in its submission that the Commonwealth government is 'hijacking' funding available for regional mapping and resource assessment, citing the NLWRA as an example of this. According to ERIC:

> Government departments and agencies have access to public data, information, technology and funds for regional resource mapping and assessment purposes that are denied to private industry. This form of unfair trading ultimately impacts on the capability of private companies to add value into regional communities through information services and decision support.[25]

10.31 The committee does not agree with this view. Most research funded by the Commonwealth (and by state and territory governments) is undertaken via contracts with private sector and university research groups – as evidenced by the NLWRA which is drawing together existing research and commissioning new research where needed. The Commonwealth's primary role in information management is in definition of data needs, analysis of the data and its use for policy formulation.

---

22 National Land and Water Resources Audit Australia: *Audit Strategic Plan 1998-2001*, http://www.nlwra.gov.au/full/15_publications/28_strategic_plan/1997-8/1997-8.html, accessed 20 December 1999.

23 National Land and Water Resources Audit, internet site, http://www.nlwra.gov.au/full/20_products/10_products_in_progress/05_by_subject/10_water_resources_and_mgt/55_water_resource_dev/water_resource_dev.html, accessed 10 January 2000.

24 Centre for Water Policy Research (UNE) and Australian Centre for Tropical Freshwater Research (JCU), *Large Water Resource Developments – An Integrated Assessment Process*, Report prepared for the National Land and Water Resources Audit, Commonwealth of Australia, June 1999.

25 Environmental Research and Information Consortium, Submission no. 37, p. 3.

Other national programs and agreements

10.32 Some other national programs include:

- National Working Group on Water Conservation – comprising Commonwealth, state and territory representatives, aiming to develop national policies to improve water use efficiency in urban and rural areas.
- National Water Quality Management Strategy – a set of 20 documents, providing guidelines for water use and effluent management across a range of industries (part of the national competition policy agreement). While not compulsory, the guidelines have been developed in consultation and agreement with affected industries.
- National Dryland Salinity Program (Phase II) – a research, development and extension program that aims to increase understanding and awareness of dryland salinity, to prevent further salinisation and to suggest ways of remediating affected land. The program is jointly funded by the Commonwealth, the Murray Darling Basin Commission, the CSIRO, research and development corporations (Grains Research and Development Corporation and Rural Industries Research and Development Corporation), and state governments.[26] The program is in addition to state / territory government salinity programs.
- Murray Darling Basin Ministerial Council: cap on diversions – the MDBMC, comprising the Commonwealth and Queensland, New South Wales, Victoria, South Australia and ACT governments, agreed in 1995 to place a cap on diversions from the Murray-Darling river system, to take effect from July 1997. The cap ensures existing levels of water diversions cannot be increased, and that new developments are only undertaken as a result of efficiency gains or purchased water rights (water trading).

Education and training

10.33 The Commonwealth provides a number of education, training and leadership programs for land and farm managers, including training on better land and water management practices. Goulburn Murray Water told the committee it is important to provide incentives to irrigators to invest in on-farm infrastructure that will improve water use efficiency.[27]

---

26 Land and Water Resources Research and Development Corporation, *Annual Report 1998-99*, Commonwealth of Australia, 1999, p. 6.

27 Goulburn Murray Water, Submission no. 97, p. 7.

National Competition Policy - Water Reform Framework

10.34 In February 1994, COAG endorsed a reform framework for Australia's water industry. The water reforms became part of the NCP agreements, signed in April 1995. Table 10.2 briefly outlines the COAG water reforms.

Table 10.2 National Competition Policy: Water Reform Framework

Reform	Detail and timing
Full-cost recovery	Pricing reforms based on full-cost recovery and removal or reduction of subsidies (by 1998 for urban water services and 2001 for rural services).
Water allocations	Implementation of water allocations or entitlements, including allocations for the environment as a legitimate water user, separated from land title (by 2001 for environmental flows and 2005 for full allocation). This facilitates water trading and reallocation to higher value uses.
Institutional reform	Structural separation of the roles of service provision from water resource management, standard setting and regulatory enforcement (by 1998).
Investment requirements	Future infrastructure developments being subject to tests of economic viability and ecological sustainability.
Education	Implementation of integrated catchment management and water quality guidelines (National Water Quality Management Strategy).
Education	Public education about the need for water reform and consultation on implementation of the water reform framework.
KEY DOCUMENTS	Water Resource Policy, stated in the Report of the Working Group on Water Resource Policy to the Council of Australian Governments, February 1994. Compendium of Agreements: National Competition Council website: http://www.ncc.gov.au/nationalcompet/agreements/index.htm.

Source *National Competition Council, internet site, http://www.ncc.gov.au, accessed 23 December 1999.*

10.35 Under the 1995 NCP Agreement, the Commonwealth made $16 billion available to states and territories as payment for implementing the agreed reforms in the water, energy, and transport industries. The NCP payments are linked to the implementation of water industry reforms (and other conditions). There were no obligations for water reform in the first tranche of payments (July 1997).

10.36 The second tranche of payments commenced in the 1999-2000 financial year. In July 1999, the National Competition Council (NCC) recommended that all states and territories, with the exception of Queensland, receive full payment of the first part of the second tranche payments. The NCC recommended that 25 per cent of Queensland's second tranche payment should be suspended till the end of 1999.

10.37 This recommendation was made because the NCC was concerned that Queensland was not fully implementing the water reforms agreed to under the NCP. The NCC was particularly concerned that some rural water infrastructure investments had gone ahead despite not meeting the

criteria set out in the NCP Water Reform Framework. The NCC comments:

> These matters lie at the heart of the NCP water reform program – the water reform package does not prevent governments building dams and other water infrastructure, but such investments must satisfy economic and environmental tests.[28]

10.38 The Commonwealth government reversed its original decision to suspend the remaining part of the second tranche payment to Queensland in February 2000, after reassessment of Queensland's proposed water infrastructure plans.

10.39 The third tranche payments are due to commence in 2001-02, and will depend on states giving full effect to the COAG agreements on water reform.[29]

Impact of NCP Water Reform Framework

10.40 Implementation of the NCP Water Reform Framework has occurred at an uneven pace across Australia and, overall, the reforms are not as advanced as those occurring in the electricity and gas sectors are.[30] Victoria began regulatory and pricing reform in the early 1990s and has experienced a number of benefits of the water reform process, including:

- efficiencies from institutional reform, including a cost saving of $150 million over five years;
- lower water bills for 85 per cent of metropolitan water users and a drop of up to 40 per cent for business users; and
- reduction in irrigation of grazing pastures and increase in irrigation of high value crops.[31]

10.41 The President of the NCC commented in 1998 that:

> More than 40 % of irrigation water currently goes to low-value pasture activities. Obviously, transferring water out of these and into, for example, winegrapes will boost overall rural profitability … In the Victorian horticulture and dairying industries, the

28 National Competition Council, *Annual Report 1998-99*, Commonwealth of Australia, p. 25.

29 National Competition Council, Water Resource Policy, Compendium of Agreements, http://www.ncc.gov.au/nationalcompet/agreements/index.htm, accessed 15 December 1999.

30 Productivity Commission, *Impact of Competition Policy Reforms on Rural and Regional Australia*, Inquiry Report No. 8, Commonwealth of Australia, September 1999, p. 151.

31 Productivity Commission, *op cit*, p. 155.

> projected benefits of intrastate water trade are about $50 million a year in additional agricultural output.[32]

10.42 AFFA noted that the environmental benefits expected as a result of the reforms, particularly in the Murray-Darling Basin, included:

- a greater emphasis on achieving water use efficiencies as a means to obtain water for further development;
- a subsequent reduction in access to the groundwater table with fewer consequent problems from waterlogging and soil salinisation;
- a better framework for trading in water entitlements both within states and between individuals in different states; and
- less deterioration in water quality and river health generally.[33]

10.43 The committee received some argument that the water reforms have had a negative impact on rural and regional communities. The NFF argued that the implementation of NCP reforms had occurred at a time of adverse climatic conditions and lower commodities prices, thereby hitting rural communities hard when they were already facing difficulties. The NFF called on the Commonwealth government to provide increased funding for rural adjustment, and to provide funding for rural and regional communities to participate actively in reviews of NCP policy and implementation.[34]

10.44 Professor Peter Cullen, from the Cooperative Research Centre for Freshwater Ecology at the University of Canberra, commented in 1998 on the backlash to the water reforms:

> Rural communities are dispirited and demoralised with the changes they must adapt to. They see the COAG and other water reforms as part of the problem rather than part of the solution, and many are seeking to wind back some of the advances that have been made. Some see water as meaning more money without appreciating that as usage increases the security of the supply decreases.[35]

10.45 The Dawson Valley Development Association outlined community fears about increased water prices under the water reforms:

---

32 G Samuel, 'Competition is good for rural Australia' in *Australian Farm Journal*, September 1998, p. 23.

33 Agriculture, Fisheries and Forestry Australia, Submission no. 253, Attachment A, p. 22.

34 National Farmers' Federation, Supplementary Submission no. 261, p. 2.

35 Peter Cullen, 'Water and the emerging political imperatives' delivered at the 9th Annual Jack Beale Water Resources Lecture, Water Research Foundation of Australia, 1998, p. 1.

> National Competition Policy and COAG agreements have not assisted regional communities in obtaining infrastructure which will improve living conditions and promote development.
>
> In the case of the proposed Nathan dam, these policies will contribute greatly to a higher than expected price for water. The DVDA acknowledges that there is a need for infrastructure providers to obtain a more realistic return on their investments and that higher prices will improve water use efficiency. However, the predicted price of $700-$1,000 per megalitre for water from the Nathan dam will preclude many local people from purchasing water. There are fears that an influx of larger investors will disadvantage the small landholder, thus changing the social fabric of the region.[36]

10.46 The Queensland Farmers' Federation (QFF) submission emphasised the negative impact of the NCP reforms on water policy:

> It is unfortunate that the Federal Government appears to have used the COAG Agreement on Water Reforms to abandon any support for States seeking to invest in the development of under utilised water resources. In doing so it has turned its back on a very effective way of generating rural and regional development.[37]

10.47 In 1999 the Productivity Commission undertook a major study on the impact of NCP reforms on rural and regional Australia. The Commission acknowledged that many rural water users, particularly irrigators, had experienced 'significant increases' in water prices as a result of the reforms, but noted that, before the reforms, water was underpriced in the majority of areas. The Commission argued:

> Notwithstanding improvements in the efficiency of service delivery, these increases are likely to continue. At the same time, the reforms are providing benefits to the environment, through, for instance, greater incentives to reduce wastage, thereby leading to more efficient investment in water infrastructure.
>
> However, more progress on reforms intended to improve water property rights and their tradeability is necessary in order to enhance the prospects of achieving a net increase in the value of agricultural output.[38]

---

36 Dawson Valley Development Association Inc, Submission no. 156, p. 5.

37 Queensland Farmers' Federation, Submission no. 206, p. 5.

38 Productivity Commission, *Impact of Competition Policy Reforms on Rural and Regional Australia:* Inquiry Report No. 8, Commonwealth of Australia, September 1999, p. 159.

10.48 The committee appreciates that some communities feel the NCP water reforms have not shown benefits in their area. This is particularly so for irrigators who must now pay full price for water and must operate within their allocated portions (or use water trading to meet their requirements). However, there was clearly a need for increased efficiency in the water industry. The environmental effects of poorly managed water resources over the last century are now evident in increasing salinity and land degradation.

Institutional arrangements at state level

10.49 As noted above, planning, development and maintenance of water infrastructure is primarily a state and territory government responsibility. As a result of the NCP Water Reform Framework, all states and territories have been reviewing and restructuring their water resource management arrangements. A comprehensive summary of the reforms undertaken at national and state / territory levels can be found in the Productivity Commission's supplementary report (1999) on infrastructure agreements and reform initiatives.[39]

The need for new investment in water infrastructure

10.50 There is a pressing need for investment in upgrading existing water infrastructure for agricultural use and development of new water resources. The lack of an adequate and / or reliable water supply can have a devastating effect on rural and regional communities. The Esperence Development Commission outlined difficulties experienced in the Goldfields area in attracting new investment, due to water supply problems including high cost, poor quality, salinity, and insecurity of continuing supply.

> The consequences of this situation have seen new residential developments being deterred because of high water prices, and severe water restrictions in the region have acted as a disincentive for people wanting to build permanent residences and create new industries.[40]

10.51 The township of Coominya, west of Brisbane, provided another example of the damage resulting from the lack of an adequate water supply: there is no piped or treated water supplied to the town, the local abattoir has no

39 Productivity Commission, *Supplement to the Draft Report on Impact of Competition Policy Reforms on Rural and Regional Australia*, Commonwealth of Australia, May 1999, p. 44.

40 Esperence Development Commission, Submission no. 153, p. 11.

guaranteed water supply for a proposed expansion, and the population is sharply decreasing (evidenced by a 40 per cent drop in primary school enrolments).[41]

10.52 Unfortunately, these are not isolated examples of the inadequacy of current water resource infrastructure. The submission from HREOC stated that all Australians had a basic right to an adequate and safe water supply. Its 1994 study into water provision for indigenous communities found that:

- 154 000 Australians living in 1 200 communities were without a reticulated water supply;
- about 21 000 of those were Aboriginal people;
- another 19 000 Aboriginal people were served by water supply schemes which had insufficient capacity to meet the water demands of their communities; and
- about 14 500 Aboriginal people relied on water not complying with National Health & Medical Research Council guidelines on water quality.[42]

10.53 HREOC's 1999 *Bush Talks* study found that many of the above problems had not yet been rectified, and the Commission plans to review arrangements for delivery of water supplies to indigenous communities.

10.54 In addition to problems with inadequate water supplies for communities across Australia, irrigation infrastructure developed over the last century is ageing and inefficient, resulting in wasted water and environmental problems. **AusCID pointed out that much of Australia's irrigation system is over 60 years old and loses up to 30 to 40 per cent of its volume through evaporation in open channels, seepage or outmoded practices**. According to AusCID:

> Re-investment in modern irrigation, following completion of the necessary reform processes, including appropriate pricing, would increase the availability of water with benefits not only to agriculture but also to environmental flows in rivers.[43]

10.55 AFFA also pointed to the environmental degradation caused by poorly planned irrigation infrastructure, and the increasing need for urban water supply and treatment plants to be upgraded or replaced, at great cost. The

41 Atkinson Buraraba Catchment Landcare Group, Submission no. 135, p. 2.

42 Human Rights and Equal Opportunity Commission, Submission no. 87, p. 16.

43 Australian Council for Infrastructure Development, Submission no. 215, p. 6.

department stated that 'in planning for the future, it is critically important to avoid the mistakes of the past'.[44]

10.56 The cost of upgrading existing metropolitan and rural water infrastructure will be massive. In late 1999 the Institution of Engineers estimated that over the next four years the capital expenditure required on water infrastructure would be $1.3 billion for water supply works and $1.8 billion for sewerage works.[45]

10.57 The Queensland government told the committee of difficulties in providing ongoing maintenance for existing infrastructure:

> It is the knock-on effect of the slow decay of infrastructure which is of great concern to us. The state is finding it increasingly difficult economically and financially to maintain the large network of local infrastructure, given the sheer size of the place.[46]

Queensland's water resources

10.58 Many submissions and evidence before the committee highlighted the need for new and upgraded water resource infrastructure throughout Queensland. The Queensland government advised that the available water resource was fully utilised and that more water was needed:

> Most regional centres in Queensland are stagnating or experiencing negative growth with the permanent negative net migration to the coastal cities. Queensland's available water sources are virtually fully committed and, except in a few areas, new allocations of reliable supplies are not available.[47]

10.59 The Mackay Tourism and Development Bureau told the committee of that region's need for water resource infrastructure, particularly to encourage development of the horticulture and mining industries.

> There is currently insufficient water infrastructure to support these industries [horticulture and mining], as well as a deficiency in baseline information to identify current and potential water demand within the region. The growth of these industries is currently restricted by the lack of available water.[48]

---

44 Agriculture, Fisheries and Forestry Australia, Submission no. 253, Attachment A, p. 20.

45 Institution of Engineers Australia, *A Report Card on the Nation's Infrastructure: Investigating the Health of Australia's Water Systems, Roads, Railways and Bridges*, Institution of Engineers Australia, December 1999, p. 36.

46 Queensland government, Transcript of Evidence, 23 August 1999, p. 123.

47 Queensland government, Submission no. 257, p. 15.

48 Mackay Tourism Development Bureau, Submission no. 207, p. 2.

10.60 The Queensland government and other submissions highlighted the state's huge amount of water run-off, currently largely untapped. While NSW utilises 55.5 per cent of its divertable resource and Victoria uses 41.2 per cent of its water resource, Queensland only utilises 10.6 per cent of its current water resources.[49]

10.61 The Queensland government pointed to the state's substantial areas of arable soils that could be developed if sufficient water supplies were available. Similarly, the Hell's Gate Development Council pointed out that the vast inland area of Queensland, comprising 90 per cent of the state, produces $200 million or one per cent, of Australia's entire agricultural production.[50] The Council argued that, with increased irrigated agriculture, inland Queensland could make a much more significant contribution to the national economy as well as become a vibrant inland community with increased employment and development opportunities.

10.62 The Queensland government claimed that new water infrastructure was mandatory to fully utilise its water resource and allow growth in the state's economic base. For example, an agricultural water demand survey in the Dawson River basin (Central Queensland) indicated a future demand in excess of 300 000 megalitres per year, compared with a current allocation of some 60 000 megalitres per year.

> No amount of demand management or reuse can meet such potential water demands; only new infrastructure such as the proposed Nathan Dam can do this.[51]

10.63 At a public hearing, the Queensland government stated that the NCP water reforms were preventing new water infrastructure developments in Queensland. The government told the committee:

> There is a case in point at the moment where we are trying to build a dam on the St George [River] but we cannot build it because the state will face national competition policy penalties for going ahead with that project of $14 million.[52]

10.64 The government also claimed that some of Queensland's most disadvantaged citizens, such as Aboriginal and Torres Strait Islander communities, could make the most use of water infrastructure for health and tourism ventures.

---

49 Queensland government, *op cit*, p. 27.

50 Hell's Gates Development Council, Attachment to Submission from Bob Katter MP, Submission no. 32, p. 2.

51 Queensland government, Submission no. 257, p. 15.

52 Queensland government, Transcript of Evidence, 23 August 1999, p. 127.

10.65 QFF argued that the need to complete water allocation management plans (WAMPs) for all catchments before further development could occur in effect placed a moratorium on water infrastructure development in Queensland.[53] Queensland's Canegrowers agreed, stating that:

> Policies which may be appropriate for southern states where water resource development is heavily influenced by overcommitted resources and environmental difficulties such as salinity are not necessarily the most efficient for this state when industries are seeking to undertake sustainable water resource development projects.[54]

10.66 The Queensland Government initiated the WAMPs process in response to the COAG requirement to allocate all water use, including environmental water requirements. The committee notes that the Queensland government is currently reviewing the WAMPs arrangements in order to provide a more streamlined method of assessment.[55]

10.67 Over the last four years successive Queensland governments have made commitments to fund new water infrastructure projects throughout the state. In 1996, the then Queensland government announced a Water Infrastructure Package, worth $1 billion over 15 years, for development of new water infrastructure throughout the state. The first step was the establishment of a Water Infrastructure Task Force with the role of recommending an infrastructure strategy.

10.68 After evaluating 350 submissions containing 383 separate proposals, the Task Force proposed 93 infrastructure projects, in three categories of priority, for implementation over the next 15 years.[56] Investigation of the viability of the proposed projects, including more general assessments of catchments to determine the best sites for development across the state, have been underway and are due for completion in 2000, with detailed planning and assessment of preferred developments to follow.[57]

10.69 The Queensland government called on the Commonwealth to consider giving tax concessions to major water infrastructure projects, and is

---

53 Queensland Farmers' Federation, Submission no. 206, p. 5.

54 Canegrowers, Submission no. 183, p. 5.

55 Queensland Department of Natural Resources, internet site, http://www.dnr.qld.gov.au/resourcenet/water/wamp/index.html, accessed 14 January 2000.

56 Queensland Department of Natural Resources, *Water infrastructure planning and development: 1997-98 to 2001-02 Implementation Plan*, Queensland government, 1997, p. 3.

57 Queensland government: response to questions taken on notice at a public hearing on 23 August, 1999.

considering using private sector partnerships to facilitate infrastructure development. These two proposals are outlined further in this chapter.

Options for funding water infrastructure projects

Commonwealth government involvement

10.70 As outlined earlier in this chapter, it is Commonwealth government policy to invest in water infrastructure projects only where they will serve a national interest and / or meet strong community service obligations (where the market will not meet demand). The submission from AFFA stated that the Commonwealth's primary role is in setting standards and other boundary conditions. According to AFFA, Commonwealth involvement in water infrastructure provision should therefore be limited by:

- recognition that natural resource management is primarily a state and local government responsibility;
- the understanding that investments made in the national interest should only proceed if they contribute to long-term economic viability and ecological sustainability; and
- the use of any Commonwealth investment to lever the necessary economic, management and institutional reforms to attract additional investment from other governments, private enterprise and beneficiaries.[58]

10.71 The above principles reflect the agreements made under the NCP Water Reform Framework. However, the committee received arguments that the framework is unnecessarily stifling investment in new infrastructure proposals. Murrumbidgee Irrigation Ltd stated:

> If we are to genuinely foster development of regional and rural Australia, future government investment in irrigated agriculture, production support and transport infrastructure must be undertaken.
>
> Governments must factor in to its return on investment, all of the indirect returns it benefits from. These returns are not recognised

58 Agriculture, Fisheries and Forestry Australia, Submission no. 253, Attachment A, p. 25.

> by COAG and this clearly serves to shift Government focus away from regional Australia.[59]

10.72 QFF, while acknowledging that the COAG water reforms will result in better use of water resources in the long term, argued that the Commonwealth government should take a more active role in infrastructure investment. The QFF argued that the Commonwealth should recognise that Queensland's circumstances are different to those experienced in NSW and Victoria, where salinity and other environmental problems are a priority:

> Policies which are appropriate to handle such situations are not appropriate for Queensland where under utilised resources exist and where modern technologies and government requirements will ensure that production systems are sustainable and that the needs of the environment are met.
>
> If the Commonwealth Government are serious about pursuing rural and regional development they should be prepared to recognise that Queensland, and Northern Australia as a whole, have considerable potential for water resource development and be prepared to provide appropriate assistance.[60]

10.73 QFF recommended that the Commonwealth share the financing of new water infrastructure projects equally with the Queensland government and with industry. The National Farmers' Federation (NFF) also called for the Commonwealth's involvement in infrastructure funding:

> … government should be willing to invest in or encourage investment in further development of our water resources, recognising that some State's water resources still offer development opportunities.[61]

10.74 The Queensland government's submission argued that the Commonwealth's role in water infrastructure provision should be realised through favourable tax incentives and assistance to enable new projects to get off the ground. In particular, the Queensland government opposed abolition of accelerated depreciation provisions, proposed as part of the review of business taxation arrangements.[62]

10.75 Murrumbidgee Irrigation Ltd also argued for favourable tax concessions for water infrastructure development:

---

59 Murrumbidgee Irrigation Ltd, Submission no. 52, p. 8.

60 Queensland Farmers' Federation, Submission no. 206, p. 7.

61 National Farmers' Federation, supplementary Submission no. 261, p. 3.

62 Queensland government, Submission no. 257, p. 39.

> The infrastructure we have custody of is the ultimate community infrastructure, and other members of the community have a free ride in that they do not directly fund its upkeep. The road bridges and culverts over our channels especially support the wider community, and tourism is especially dependent on their renewal. We hold the assets in trust for future generations. We need special tax treatment for this infrastructure.[63]

10.76 Taxation issues relating to infrastructure developments, including accelerated depreciation, are discussed more fully in chapter 4.

State governments: developing partnerships with private enterprise

10.77 State governments have been overhauling their water infrastructure arrangements since the NCP water reforms were agreed to in 1994. While recognising their role in providing water infrastructure, particularly to communities where market forces will not provide solutions, governments are increasingly looking to partnerships with private enterprise to fund new water infrastructure developments.

10.78 There is evidence that private sector interest in water infrastructure investment is increasing. The Department of Transport and Regional Development told the committee:

> … over the last 20 years we have gone from a situation where, other than probably in the gas industry, there was minimal private investment in major infrastructure to a point where we have now got quite a deep market.
>
> The water investments are a new area, and I am sure the bankers and the firms involved would have taken a long time to get comfortable with investments in that sector. But they seem to have been a reasonable success, at least from a financial point of view, so the next time there is a potential private water investment those who need to make the decisions will be that much more comfortable in making them. That is important because it means that each time there is another investment it is a bit less of a risk for the financing community and that much easier for the project proponents to finance.[64]

63 Murrumbidgee Irrigation Ltd, Submission no. 52, p. 2.

64 Department of Transport and Regional Development, Transcript of Evidence, 23 August 1999, pp. 88-89.

10.79 In the past, water infrastructure projects were not seen as economically viable by the private sector. However, as indicated by the Department of Transport and Regional Services, projects may now be seen as economically worthwhile. AusCID told the committee:

> I guess the good news that the private sector can demonstrate today—contrary to what you may hear from certain vested interests—that the technology and methodology now exists in the water area for even the smallest communities—I am talking down to 500 people—to get good quality drinking water and an environmentally responsible disposal system, to World Health Organisation standards, at an economic price, if you do it right. That is the water message.
>
> If the barriers were removed, and there are still a lot of bureaucratic barriers …, a substantial amount of regional Australia could be getting good levels of water treatment now and not have to stand in a queue for a handout.[65]

BOOT and DBO schemes

10.80 AusCID noted the increasing use of BOOT and Design-Build-Operate (DBO) schemes by governments for development of water infrastructure. Over the past several years, Victoria and South Australia in particular have undertaken a number of BOOT water infrastructure developments. During a visit to Renmark, the committee met with directors of the Riverland Water project, a $115 million BOOT scheme for provision of filtered water in rural South Australia (see Box 10.2).

10.81 A similar project to the Riverland Water scheme is that undertaken by Coliban Water Authority in regional Victoria. Coliban Water has let a number of BOOT contracts as part of a $190 million upgrade of water infrastructure, and in a departure from normal practice, has undertaken BOOT developments for projects valued at less than $20 million, as well as larger projects. The use of BOOT funding by Coliban Water has resulted in:

- savings of 20 per cent against the projected cost of public sector investment in the projects;
- use of state-of-the-art technology not available to government (membrane filtration processing for an urban water plant at Bendigo, preventing giardia and cryptospiridium parasites); and

65 Australian Council for Infrastructure Development, Transcript of Evidence, 21 June 1999, pp. 9 - 10.

- risk transferred to the private sector with substantial penalties for breaches. At Coliban, the onus for public health risk is on the new owner and operator of the plant.[66]

Box 10.2 Renmark Filtration Plant, South Australia

In 1996, Riverland Water won a $115 million contract for a BOOT scheme to design, construct and operate for 25 years, 10 water filtration plants to serve the Adelaide Hills, Barossa Valley, Mid-North, upper South-East, and larger towns on the River Murray. After 25 years, ownership of the plants will revert to the SA Water Corporation. Features of the Riverland Water BOOT contract include:

- 100,000 people in over 90 rural communities have access to filtered water exceeding WHO standards, using best practice technologies;
- requirement that Riverland Water generate exports from South Australia to the value of $200 million in the first 10 years, creating economic growth in rural South Australia;
- construction completed within three years of signing contract; and
- project underwritten by an international consortium including infrastructure investors – an opportunity to encourage more international investment in Australian infrastructure.

Source: Material and information gathered during the committee's visit to Renmark, South Australia, 13 September 1999.

10.82 New South Wales has largely retained the traditional system of constructing facilities designed according to government specifications but with growing use of Design and Construct (D&C). BOOT contracts have been undertaken in Sydney. AusCID stated that:

> It is interesting to compare the situation in NSW where the 'backlog' list in country areas was $1.5 billion in 1994 and reliance placed on local and State funding. No BOOT projects have been done and the backlog is currently estimated at $1.2 billion with approximately 200 projects awaiting financial approval.[67]

66 Coliban Regional Water Authority, Submission no. 116, pp. 2-4; Australian Council for Infrastructure Development, Submission no. 215, pp. 21-22.

67 Australian Council for Infrastructure Development, Submission no. 215, p. 20.

10.83 The New South Wales government is currently developing a Total Asset Management Plan to manage the state's water resources and to identify the investment needed to refurbish and maintain existing water infrastructure.[68] The committee hopes that the New South Wales government takes note of the success of BOOT schemes in other states, and endeavours to fund water infrastructure projects through such schemes, with a view to providing adequate water supplies to rural residents as soon as possible.

10.84 The submission from the Queensland government flagged its interest in BOOT projects and joint schemes involving state government / private sector partnerships but noted that the emphasis for success of partnership agreements often falls on the government:

> Experience has shown that, even where schemes have been demonstrated to be economically viable and ecologically sustainable, potential rural water users (irrigators) may not have the capacity to pay water prices in the short to medium term that will return a commercial rate on investment.[69]

10.85 The Queensland government surmised that the main reasons for commercial instability were irrigators' cash flow problems, commodity price fluctuations, and the short-term nature of farm investment compared to the long-term life of infrastructure. Despite this, the Queensland government is actively pursuing BOOT schemes for several proposed infrastructure developments, and is working with the Infrastructure Association of Queensland to develop a generic agreement on partnerships for water infrastructure development.[70] The committee welcomes this development and encourages other state governments to develop dialogue with private sector interests with a view to developing government / private enterprise partnership agreements.

10.86 The committee is convinced of the need for investment in existing and new water infrastructure in regions throughout Australia. However, as has been noted in evidence before the committee, the cost of such investments will be extremely high. It is unrealistic to expect that any one level of government alone can fund the upgrades and new works required to make the best and most efficient use of Australia's water resources. **The committee therefore believes it is vital that governments build effective partnerships with private enterprise to facilitate investment, and has recommended to this effect in recommendation 15.**

---

68 New South Wales government, Submission no. 260, p. 13.

69 Queensland government, Submission no. 257, p. 38.

70 Queensland government, Transcript of Evidence, 23 August 1999, p. 137; Submission no. 257, p. 44.

New approaches

10.87 The committee believes it is important to continue investigating new technologies and methods for developing water resources. During its visit to south east Queensland, the committee heard about a proposal to use renewed water for irrigation in the Lockyer Valley. Under this scheme, treated wastewater would be pumped from nearby plants into the Lockyer Valley, for use by irrigated agriculture and industrial plants. The project's proponents estimate that annual production could increase by 40 per cent, or $30 million per year. The use of renewed water in the Lockyer Valley would alleviate the need for a new water storage to be built, and provide a demonstration site for development of similar schemes throughout Australia.[71]

10.88 The committee also notes the recent research undertaken by the CSIRO and Centre for Groundwater Studies which shows that surface water may be injected into existing underground aquifers, to be drawn out again when needed. This alleviates the need for surface storage dams, prevents evaporation and reduces the possibility of water pollution. According to the research, it is even possible to store fresh water within saline aquifers, meaning this method of water storage could be used throughout Australia.[72]

10.89 At a private meeting in Mt Gambier, the committee was advised that the region's water is supplied by two underground aquifers containing potentially very large volumes. The two aquifers are regulated separately and plans are being developed for five new water allocation areas. Infrastructure is needed to distribute water and reduce the volume presently being lost out to sea. Three options exist:

- an interconnector (estimated cost $250 million) that would provide access for water sales and purchases;
- drainage to prevent water loss out to sea by diversion into a grid; and
- reuse of grey water from industry.

A government/community partnership is considering solutions such as a levy to fund a drainage system to carry salty water out to sea and planting of salt-tolerant trees. Vision and strategic planning are needed encompassing land use planning, more efficient and productive water use and meeting of EPA standards.

71 Queensland Department of Natural Resources, *Summary Document: Use of Renewed Water for Irrigation in the Lockyer Valley*, Queensland government, date unknown.

72 CSIRO Media release: 'Underground "Dams" the way of the future', 12 January 2000.

Assessment and approval of infrastructure development proposals

10.90 Where there are proposals for new investment in water infrastructure, whether originating from the private sector, governments, or partnerships, it is imperative that the assessment and approval process for projects be as efficient as possible. The Local Government Association of Tasmania, while acknowledging that Tasmania's water resources were adequate, argued that the state could benefit greatly from further investment in water infrastructure, noting that:

> The opportunities associated with the effective and efficient availability of water are endless. When those opportunities are identified, it is imperative that the processes and resources necessary to effect the infrastructure provision can be quickly activated to ensure that investment opportunities are not lost.[73]

10.91 The Australian Constructors Association argued that the need for consultation with three different levels of government resulted in an 'administrative nightmare' for water infrastructure providers. According to the Association, water infrastructure proponents must consult state government pricing and licence regulators, state and federal health departments, state land and water resource departments, state environment protection authorities and state and federal environment departments.

> The maze of regulatory agencies reflects the critical nature of water provision, but also means a headache for the private companies required to negotiate it. [74]

10.92 AusCID cited examples of difficulties investors had experienced in gaining government approval for proposed projects. One such example was at Marulan, a town on the Federal Highway in New South Wales, which needed a new water supply. The NSW Government estimated the cost to be at $2.6 million and told the community it would be eligible for some subsidy, provided the government built the infrastructure. The local shire investigated the proposal and found that the private sector could provide the infrastructure at a cost of $800 000, using new technology. AusCID told the committee:

> They had to fight bureaucracy to get it through but they got it through and it is operating. The quality of the water in Marulan is better than anyone ever expected. But they had to fight the

73 Local Government Association of Tasmania, Submission no. 212, p. 13.

74 Australian Constructors Association, Submission no. 225, p. 33.

> bureaucracy to get approval to save taxpayers' money. That is the barrier. [75]

10.93 The NSW government recognised that long lead-times for major water resource projects were often the cause of frustration for project proponents:

> There is usually a long lead-time required to develop major water supply or sewerage projects. Invariably water storage and effluent discharge proposals generate public controversy. It can take up to 10 years to reach an agreed solution with community and interest groups.[76]

10.94 In arguing for favourable taxation arrangements for infrastructure projects, the Queensland government also referred to this problem:

> Some water schemes, even though they produce strong national as well as regional benefits, may not proceed in the short to medium term without recognition of the investment lead time associated with long life projects in newly developing areas. This may require some favourable treatment relative to other investments (eg. tax concessions) to cushion the difficulties attached to this long lead time.[77]

Water Infrastructure Assessment Project

10.95 In January 2000 the Commonwealth government released a report on *Large Water Resource Developments – An Integrated Assessment Process*, undertaken as part of the NLWRA. The report proposes a two-stage decision making framework to evaluate proposals for water infrastructure developments.

10.96 The first stage consists of a 'rapid assessment process', including preparation of a proposal concept by the project proponent and a Preliminary Project Statement, briefly outlining the project's level of stakeholder support and economic, environmental and engineering impacts. The Statement would be submitted to the appropriate state agency for a rapid response.

10.97 On receipt of a favourable response, the project proponents enter the second stage 'detailed assessment process', involving negotiation with the Commonwealth for funding and approval and development of a Detailed

75 Australian Council for Infrastructure Development, Transcript of Evidence, 21 June 1999, p. 10.

76 New South Wales government, Submission no. 260, p. 13.

77 Queensland government, Submission no. 257, p. 39.

Project Statement. The Statement would include information under standard headings including economic criteria, financial criteria, ecological criteria, community and social criteria, and engineering criteria.

10.98 A set of detailed guidelines and information requirements for project proponents are also included in the assessment framework. According to the designers of the proposed assessment framework, it should improve the assessment and approval process for both project proponents and decision-makers:

> The ambiguity that exists gives rise to both false expectations and misleading argument. It is also a time-consuming constraint upon both resource manager and prospective developer as responsible decision-making is constantly confounded by socio-political imperatives.[78]

10.99 According to the Minister for Transport and Regional Services, the Commonwealth intends to use the assessment framework to consider water resource development projects, and it is hoped state and territory governments will also use the framework.[79]

10.100 The committee supports this type of assessment framework. The use of a nationally consistent decision-making tool would speed up development assessment and approval and enable better coordination between relevant state and Commonwealth authorities.

Conclusion

10.101 The building of dams has come to be seen as environmentally degrading and economically extravagant. However, dams are required if water starved regional areas are to develop drought proofing, safe and viable town water supplies, farm irrigation and, importantly, cleansing environmental water flows during dry times.

10.102 Infrastructure development has declined for various reasons, leading to the rundown of infrastructure. However, water should be recognised as a development resource. There is a need for government to be involved in facilitating and initiating schemes to allow for the rebuilding of water infrastructure. It also has a role in jointly developing new infrastructure to meet growing demand in rural and regional areas. Without such

78 Centre for Water Policy Research (UNE) and Australian Centre for Tropical Freshwater Research (JCU), *Large Water Resource Developments – An Integrated Assessment Process*, Report prepared for the National Land and Water Resources Audit, Commonwealth of Australia, June 1999, p. 5.

79 The Hon. John Anderson MP, Media release: 'New Guidelines for Large Water Resource Development Proposals', 11 January 2000.

infrastructure, private interest and investment in developing new ideas for decaying areas will go elsewhere.

Recommendation 83

10.103 **The committee recommends that:**

- **the Commonwealth government work with the state and territory governments, the private sector and communities to identify water infrastructure development that would ensure sustainable regional development; and**
- **the Council of Australian Governments adopts the assessment processes for water infrastructure development proposals outlined in the report by the National Land and Water Resources Audit.** (see also recommendation 10)

National plan for water infrastructure

10.104 The need for a national plan for water infrastructure development was highlighted in evidence before the committee. Most proponents of a national plan see the Commonwealth government as the coordinating body for planning, with state governments and private enterprise forming partnerships to implement proposed projects.

10.105 The New South Wales government emphasised the Commonwealth's role in ensuring that Australia remains attractive to international investors and continues to develop its overseas markets, and sought Commonwealth funding for a national water plan. The government told the committee:

> You really have to look at 20 years out what it is going to be like. Asia's food production capacity is pretty limited for expansion and basically where are they going to look? Australia has the land but the water is a critical issue. So, looking at it from our perspective, we can do something at the state level but there is no national plan, there is no national coordination, there is no national strategy of what we should be trying to do.[80]

80 New South Wales government, Transcript of Evidence, 27 September 1999, p. 187.

10.106 Australian Women in Agriculture also recommended the development of a National Water Policy, based on good data gained from research and a collaborative consultation process with all governments, industry, environmental and community interests.[81] Goulburn Murray Water called on the government to provide information on prime development zones and guidelines for new investors.[82]

10.107 The Institution of Engineers noted in a recent report that:

> … the historical parochial nature of the water industry has possibly led to a lack of national focus for industry assessment.[83]

10.108 The Institution argued the need for national coordinated data and information on the water industry in Australia, including benchmarking of performance of the water industry nation-wide.

10.109 The committee notes that the NLWRA should provide a comprehensive overview of the current state of Australia's water infrastructure, and possibilities for future development. One option for the Commonwealth government would be to make a national call for proposed infrastructure projects, similar to the exercise undertaken by the Queensland government in 1996.

10.110 Upon receipt of all proposed infrastructure projects, the Commonwealth could devise a national plan including projects that have been deemed viable using the new assessment process described above. Detailed development of infrastructure proposals and development of partnerships could then be directed to relevant state government and private organisations.

Recommendation 84

10.111 **The committee recommends that the Commonwealth government, in consultation with state and territory governments, local government, industry, environment and community groups, develop a national plan for water infrastructure that includes identifying key investment priorities.** (see also recommendations 5 and 7)

81 Australian Women in Agriculture, Submission no. 205, p. 4.

82 Goulburn Murray Water, Submission no. 97, p. 9.

83 Institution of Engineers Australia, *A Report Card on the Nation's Infrastructure: Investigating the Health of Australia's Water Systems, Roads, Railways and Bridges*, Institution of Engineers Australia, December 1999, p. 43.