

SUBMISSION

TO

HOUSE OF REPRESENTATIVES

**STANDING COMMITTEE ON PRIMARY INDUSTRIES AND
REGIONAL SERVICES**

INQUIRY INTO INFRASTRUCTURE

AND THE

DEVELOPMENT OF AUSTRALIA'S

REGIONAL AREAS

FROM

GOULBURN-MURRAY WATER

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Introduction

Goulburn-Murray Water (G-MW) appreciates the opportunity to make a submission to this inquiry.

Our submission will concentrate on the importance of bulk and rural water supplies to regional communities and the associated improvements in economic growth and employment that are possible if appropriate partnerships can be developed between these communities and local, State and Federal Governments.

Irrigation infrastructure underpins the economy of the 64,000 square kilometre region serviced by G-MW.

We understand that, according to the terms of reference, *‘the committee, will, among other matters, consider and make recommendations about:*

- *deficiencies in infrastructure which currently impede development in Australia’s regional areas;*
- *factors that would enhance development in these areas, including the provision of infrastructure such as energy, transport, telecommunications, water supplies, and facilities that deliver educational, health and financial services;*
- *the potential for development in regional areas;*
- *the extent to which infrastructure development would generate employment in regional Australia;*
- *the role of the different levels of government and the private sector in providing infrastructure in regional areas;*
- *planning, co-ordination and co-operation in the provision of infrastructure in regional areas; and*
- *the benefit to the national economy of developing regional infrastructure.’*

The next page of this submission identifies the economic and employment benefits that can be achieved through the use of irrigation water.

The remainder of the submission addresses each of the above criteria.

ESTIMATE OF ECONOMIC AND EMPLOYMENT BENEFITS FROM IRRIGATION

Type of Enterprise	Gross Margin per 1,000 ML \$	Farm Value of Production per 1,000 ML \$	Number of Jobs per 1,000 ML			Total Number of Jobs per 1,000 ML
			On Farm	Processing	Support Industries	
Dairy	227,000	413,000	6	2	7	15
Horticulture	517,000	1,043,000	9	11	10	30
Cropping	97,000	207,000	1.72	-	1.03	2.75
Grazing	19,000	40,000	0.38	-	0.24	0.62
Tomatoes	337,000	798,000	6	8	9	23

References: *The Economic Impact of Irrigated Agriculture in the Shepparton Irrigation Region (May 1996)*, a paper prepared for Sustainable Regional Development Board by EconSearch Pty Ltd and FarmStats Australia Pty Ltd.

Dairy gross margins and farm value of production figures calculated using production details collected from NRMS project I/6014. Unpublished data: Knee, J. and Armstrong, D. 1998, *Irrigated Dairy Benchmarks*, DNRE, Kyabram, Victoria.

Mason, L. 1997, *Northern Irrigation Cropping Gross Margins 1997/1998*. DNRE

Hall et al, 1993, *ABARE Model of Irrigation Farming in the Southern Murray Darling Basin*. Report prepared for Murray Darling Basin Commission. ABARE

PART TWO: DEFICIENCIES IN INFRASTRUCTURE WHICH CURRENTLY IMPEDE DEVELOPMENT IN AUSTRALIA'S REGIONAL AREAS

Issues	Recommended strategies	Benefits
<p><i>Headworks</i></p> <ul style="list-style-type: none"> • Irrigation water and bulk supplies for urban communities and food processing are captured and stored in dams operated by G-MW. These storages produce an average annual yield of 3 million ML. Phase one of a dam improvement program is underway at a cost of \$37 million. It is expected that a further phase of dam improvement will be required at an estimated cost of up to \$70 million. Phase one has been jointly funded by the Victorian Government and G-MW customers. Phase two is still being developed and has not been funded at this stage. 	<ul style="list-style-type: none"> • Undertake phase one of dam improvement program. • Develop phase two of dam improvement program. • Identify beneficiaries of phase two of dam improvement works. 	<ul style="list-style-type: none"> • Level of risk to downstream communities and urban and irrigation supplies reduced to an acceptable level. • Sound basis for financing of dam improvement works.
<p><i>Retail</i></p> <ul style="list-style-type: none"> • The retail distribution system is predominantly gravity based with irrigation water distributed via a network of 6,756 km of earthen channels. These channels, when constructed, were designed to exploit the contours of the land, and did not always service the land most suitable for high value agricultural production. • Condition of infrastructure is poor in some 	<ul style="list-style-type: none"> • Examine pipelining options where land capability studies indicate that horticultural investment would be facilitated by improved supply. • Implement new infrastructure where environmental and production benefits can be identified. 	<ul style="list-style-type: none"> • Water savings from pipelining can be transferred to the environment or increased production. • Pressurised, year round supply. • Higher standard of service will encourage investment in horticulture with subsequent economic and employment growth.

<p>areas.</p> <ul style="list-style-type: none"> • Woorinen faces most severe problems due to condition of existing concrete lined channels. Land is suitable for high value horticulture but existing customers cannot afford cost of replacement. 		
<p><i>Drains</i></p> <ul style="list-style-type: none"> • Adequate drainage is necessary to maximise agricultural production. Significant production and environmental improvements can be achieved if new drains are implemented and existing drainage systems enhanced. 	<ul style="list-style-type: none"> • Expand or enhance regional drainage systems where studies indicate that increased economic growth, environmental enhancement and employment can be achieved via new drain construction or improved drainage infrastructure. 	<ul style="list-style-type: none"> • Higher agricultural production. • Improved environmental and flood plain management outcomes.
<p><i>Loss management\water savings</i></p> <ul style="list-style-type: none"> • Gravity irrigation systems can lose approximately 25% of water between the offtake measurement and delivery on farm. Losses can be attributed to: <ul style="list-style-type: none"> ◇ System operation. ◇ Seepage and leaks. ◇ Inadequate measurement and some use not measured. • 100,000 ML could be saved and applied to high value agriculture if losses can be captured. 	<ul style="list-style-type: none"> • Improve system operation via investment in Site Control and Data Acquisition (SCADA) infrastructure. Remote monitoring of the system and operation of critical regulators will create water savings. • Rehabilitation of assets and improved measurement will help eliminate unidentified losses. • Improve maintenance via development of asset management plans that emphasise life cycle management of infrastructure. • Invest in maintenance of infrastructure 	<ul style="list-style-type: none"> • Agreed policies on measurement and sale of water savings. • More efficient irrigation businesses. • Further investment in high value agriculture. (The growth in employment could be over 3,000 jobs if 100,000 ML of water savings was applied to new investment in horticulture) • Sustainable service benefits from infrastructure. • Control of water use. • Improved accountability.

	<p>where extensions to the life cycle of infrastructure and associated production benefits can be demonstrated.</p> <ul style="list-style-type: none">• Investigate and establish best methods to reduce leakage from large meter outlet doors and drop bars.• Develop and agree methodologies for measurement and distribution of water savings.• Encourage development of distribution methodologies for water savings that support market access for further investment in high value agriculture.	
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PART THREE: FACTORS THAT WOULD ENHANCE DEVELOPMENT IN THESE AREAS, INCLUDING THE PROVISION OF INFRASTRUCTURE SUCH AS ENERGY, TRANSPORT, TELECOMMUNICATIONS, WATER SUPPLIES, AND FACILITIES THAT DELIVER EDUCATIONAL, HEALTH AND FINANCIAL SERVICES

Issues	Recommended strategies	Benefits
<p><i>Improvements to on farm infrastructure</i></p> <ul style="list-style-type: none"> • Significant water savings could be achieved on farm as a consequence of improved infrastructure. Possible improvements include: <ul style="list-style-type: none"> ◊ Re-use or recycling systems. ◊ Enhanced on farm irrigation and drain networks. ◊ Installation of micro irrigation systems, automatic irrigation controls and irrigation scheduling devices. 	<ul style="list-style-type: none"> • Offer incentives to irrigators to invest in on farm infrastructure that will improve water use efficiency. • Expand existing schemes that offer incentives for improvement. 	<ul style="list-style-type: none"> • Improved water use efficiency at farm level. • More water available for increased production by irrigator or trade to another investor who will increase production.
<p><i>Training in best practice irrigation methods</i></p> <ul style="list-style-type: none"> • Many irrigation farmers have received no formal training in the best way to irrigate their farms. • Production will be affected by both the amount and timing of water applied. • Potential water savings in this area and improvements to on farm infrastructure could be greater than losses believed to be involved with gravity irrigation retail 	<ul style="list-style-type: none"> • Exploit opportunities to improve water use efficiencies as identified by existing research. For example, results from recent research at Kyabram indicate that the top 10% of dairy farms produce almost three times more from each megalitre of water than the lowest 10%. ¹ • Participate in establishment and promulgation of improved irrigation 	<ul style="list-style-type: none"> • Improved water use efficiency at farm level. • More water available for increased production by irrigator or trade to another investor who will increase production.

systems.	practices and techniques. • Offer incentives to irrigators to undertake appropriate training.	
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1 Armstrong, D., Knee, J., Doyle, P., Pritchard, K. and Gyles, O. (1998) *A Survey of Water Use Efficiency on Irrigated Dairy Farms in Northern Victoria and Southern New South Wales*.
Department of Natural Resources and Environment, Kyabram.

PART FOUR: THE POTENTIAL FOR DEVELOPMENT IN REGIONAL AREAS		
Issues	Recommended strategies	Benefits
<p><i>Identification of prime development zones</i></p> <ul style="list-style-type: none"> • A recent study performed for Loddon Murray 2000 Plus identified 15 likely prime development zones in or adjacent to the Pyramid-Boort and Torrumbarry irrigation areas. The study indicated that the 15 prime development zones were suitable for horticultural production and that existing surplus channel capacity could supply 13,000 ha of these lands. Over 31,000 ha could be developed if channel capacity was increased and/or water right was transferred upstream. • This study highlights the opportunities available if similar studies were undertaken for other areas. 	<ul style="list-style-type: none"> • Conduct follow up land capability studies in the Loddon Murray region on likely prime development zones already identified. • Conduct studies to identify other likely prime development zones and conduct follow up land capability studies on these likely prime development zones. • Distribute information to irrigation communities and potential investors. • Undertake studies to examine whether channel capacity should be increased to service likely prime development zones. 	<ul style="list-style-type: none"> • Water will move from low value agriculture to high value agriculture as investors seek to exploit opportunities offered by likely prime development zones. • Sustainable irrigation as land capability studies will identify environmental issues and development requirements <i>before</i> likely prime development zones are converted to high value agriculture. • Increased high value agricultural production and employment. • Informed investment decisions. • Efficient utilisation of irrigation infrastructure.
<p><i>Pipelining of waterworks systems</i></p> <ul style="list-style-type: none"> • G-MW currently supplies stock and domestic services to the Normanville, East Loddon and West Loddon waterworks districts. Negotiations are underway to transfer the Tungamah waterworks district to G-MW. • All of these districts are supplied by 	<ul style="list-style-type: none"> • Undertake feasibility studies into pipelining of waterworks systems with particular focus on service improvements, on farm infrastructure requirements and potential for water savings. • If feasibility study is positive, consult with community and Government with a view 	<ul style="list-style-type: none"> • Improved stock and domestic supplies for rural communities. • Opportunity to utilise water savings for increased production or the environment. • Improved environmental outcomes.

<p>occasional runs of water through earthen channels. The assets used by the Tungamah district are particularly poor. Significant environmental and service benefits can be achieved if these systems were replaced by pipeline services.</p>	<p>to implementing new infrastructure.</p> <ul style="list-style-type: none">• Agree cost sharing basis between community and Government.	
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PART FIVE: THE EXTENT TO WHICH INFRASTRUCTURE DEVELOPMENT WOULD GENERATE EMPLOYMENT IN REGIONAL AUSTRALIA		
Issues	Recommended strategies	Benefits
<p><i>Employment multipliers</i></p> <ul style="list-style-type: none"> • The employment multipliers associated with irrigation are significant as demonstrated by the table in Part One of this submission. • Provided the irrigation infrastructure can be sustained, these employment benefits will continue to improve, particularly if the initiatives proposed in this paper can be delivered. 	<ul style="list-style-type: none"> • Build understanding of the economic and employment benefits associated with sustainable irrigation. 	<ul style="list-style-type: none"> • Refer to benefits outlined in the rest of this paper. • Most employment benefits will be achieved by: <ul style="list-style-type: none"> ◇ Utilising irrigation business and on farm water savings in high value agriculture. ◇ Investment in pipeline systems in areas suited to horticulture. ◇ Transfer of water from low value agriculture to high value agriculture.

PART SIX: THE ROLE OF THE DIFFERENT LEVELS OF GOVERNMENT AND THE PRIVATE SECTOR IN PROVIDING INFRASTRUCTURE IN REGIONAL AREAS

<p><i>Role of Government</i></p> <ul style="list-style-type: none"> • The role of irrigated agriculture in Australia is not well understood. Irrigated agriculture is a crucial driver of economic, social and employment development in regional Australia. • Significant benefits can accrue to regional Australia if appropriate partnerships can be developed between rural communities, rural water authorities and local, State and Federal Governments in regard to the sustainable management of irrigated agriculture. 	<ul style="list-style-type: none"> • Establish appropriate corporate governance arrangements for rural water authorities to ensure long term sustainability of irrigation supply enterprises. • Provide training on water use efficiency to existing customers and investors. • Provide information on prime development zones and guidelines for new development to future investors. • Provision or enhancement of infrastructure that can supply bulk irrigation water to new green fields irrigation sites established by private investors. • Assist transfer of water from low value agriculture to high value agriculture. • Invest in infrastructure that will facilitate increased high value agricultural production. • Resolve COAG and competition policy requirements for irrigation businesses. 	<ul style="list-style-type: none"> • Clear definition of roles and responsibilities. • Public commitment to sustainable irrigated agriculture. • Long term economic and employment growth in regional areas serviced by irrigated agriculture.
<p><i>Role of private sector</i></p> <ul style="list-style-type: none"> • Establish independent irrigation businesses on green fields sites. These 	<ul style="list-style-type: none"> • Use information provided by Governments and regional development organisations in 	<ul style="list-style-type: none"> • Astute investment in high value irrigated agriculture.

<p>businesses would purchase water in bulk from irrigation businesses and distribute via private schemes to multiple properties within those schemes.</p>	<p>regard to likely prime development zones, land capability studies, environmental constraints, and irrigation development guidelines to develop proposals for investment in high value irrigated agriculture.</p>	<ul style="list-style-type: none">• Establishment of environmentally sustainable irrigation enterprises.
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PART SEVEN: PLANNING, CO-ORDINATION AND CO-OPERATION IN THE PROVISION OF INFRASTRUCTURE IN REGIONAL AREAS

<p><i>Regional development plans</i></p> <ul style="list-style-type: none"> • Regional communities need to gain a better understanding of the issues facing their regions and the opportunities that new or enhanced infrastructure and services could provide. • Regional development plans that outline the strategic direction for a region should be developed with and approved by regional communities. • Regional communities will need to deal with present local government, catchment management, water supply and regional development boundaries and work to overcome boundaries used by other organisations. The Australian Alpine Valleys Agribusiness Forum and Loddon Murray 200 Plus are two community led organisations that have been able to develop regional perspectives. 	<ul style="list-style-type: none"> • Encourage and support the establishment of community led regional development organisations that transcend existing boundaries based on communities of common interest. • Assist small towns and community organisations to develop alliances based on common interests and opportunities to jointly develop infrastructure and service proposals that will benefit their communities. • Proposals for infrastructure or services should be reviewed by and supported by the relevant regional development organisation prior to acceptance by State or Federal Governments in order to ensure that initiatives are prioritised in the best interests of the community. 	<ul style="list-style-type: none"> • Agreement between local communities and Government on best strategies to improve economic growth and employment in regional areas. • Regional support for Government decisions.
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PART EIGHT: THE BENEFIT TO THE NATIONAL ECONOMY OF DEVELOPING REGIONAL INFRASTRUCTURE

Achieving best value from infrastructure

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| <ul style="list-style-type: none"> • In many cases, the national economy is not achieving the best value from irrigation infrastructure because the original design and construction of gravity irrigation districts was aimed at a vastly different agricultural economy than that which exists today. • The gross margins per ML and the value of farm production per ML that can be achieved together with the growth in employment that can be achieved indicates that Governments may have a major incentive to invest in irrigation infrastructure in locations where investment in high value agriculture can occur. | <ul style="list-style-type: none"> • Develop opportunities for investment in irrigated infrastructure where that investment can facilitate transfer of water from low value agriculture to high value agriculture. • All new developments to conform with guidelines for irrigation development that emphasise environmental benefits that can be achieved by improving irrigation design and infrastructure. | <ul style="list-style-type: none"> • Sustainable economic and employment growth. • Improved environmental outcomes. |
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