QLD COMPETITION AUTHORITY

30 NOV 2010

DATE RECEIVED

CANEGROWERS
ISIS

48 Churchill Street Childers Qld 4660
PO Box 95 Childers Qld 4660
Phone (07) 4126 1444 Fax (07) 4126 1902
Email iss@canegrowers.com.au

29 November 2010

The Manager
Queensland Competition Authority
GPO Box 2257
BRISBANE QLD 4001

Email – water2@qca.org.au

Dear Sir

Re: IRRIGATION PRICES FOR SUNWATER SCHEMES: 2011-2016

Please find attached a submission lodged on behalf of the Isis Sugar Partnership (constituted by CANEGROWERS Isis Limited and Isis Central Sugar Mill Co. Ltd.) on behalf of irrigators in the Bundaberg Water Supply Scheme.

The submission has been prepared in response to the QCA Issues Papers.

Yours faithfully

[redacted]

Wayne Stanley
MANAGER

Encl. Isis Sugar Partnership Submission (1)

SUBMISSION TO THE QUEENSLAND COMPETITION AUTHORITY

IRRIGATION PRICES FOR SUNWATER SCHEMES: 2011-2016

November 2010

The ISIS Sugar Partnership

ISIS
Sugar Partnership

CANEGROWERS Isis

ISIS CENTRAL SUGAR MILL CO. LTD.

Table of Contents

1 Our Submission 1

1.1 The ISIS Sugar Partnership 1

1.2 Summary Response to the QCA Issues Papers 1

1. Form of Regulation 2
2. Tariff Structure 3
3. Rate of Return 4
4. Capital Cost Allocation 4
5. Asset Consumption 4
6. Capacity to Pay 5
7. Funding of Spillway Upgrades 6

2 Detailed discussion on key issues for ISIS Partnership 8

2.1 Capacity to Pay 8

2.2 History of Development 10

2.3 Line in the Sand and National Water Initiative Principles 10

2.4 Hardship Provisions 11

2.5 Lower Bound Pricing 12

2.6 Future Interactions 12

3 References 13

Appendix One: The ISIS Region 14

Water Infrastructure 14

The Sugar Industry 14

Cane Growing in the Isis Region 15

World Sugar Market Indicators and Implications for Capacity to Pay Studies 18

Appendix Two – Review Of Capacity to Pay Studies 19

Review of Studies 19

NSW Agriculture – Lachlan Study (2001) 19

Definition of Viability 21

Appendix Three: History of Development in the Region 23

Overview of Bundaberg History 23

1 Our Submission

1.1 The ISIS Sugar Partnership

This document represents the views of the members of ISIS Sugar Partnership. Members of the partnership that have come together to prepare this submission are:

- CANEGROWERS Isis Limited; and
- ISIS Central Sugar Mill Co. Ltd.

The views presented in this submission are those that are held in common. However, each group reserves the right to independent policy on issues that directly relate to their areas of operation.

The Isis region is located within the Bundaberg Water Supply Scheme (WSS) and is situated south west of Bundaberg. The Isis Cane Supply Area consists of growers supplying sugarcane to Isis Central Sugar Mill. Growers take irrigation water from the Gin Gin Main Channel, the Bingera, Gooburrum, Woongarra and Isis Channels and there are also riparian irrigators situated across the boundaries of the Bundaberg Regional Council. Isis Central Sugar Mill is in the Southern Sugar Growing Region.

This report provides a summary of our response to the issues papers, a discussion of key issues that are important to our stakeholders and finally a series of appendices which provide additional background information about our area for the Queensland Competition Authority (QCA).

1.2 Summary Response to the QCA Issues Papers

General Response

We are apprehensive that the Issues Papers provided by the QCA are extremely technical and often have dense discussion of issues of little relevance to schemes. The papers vary in quality and the degree of direction they provide to the QCA.

It is apparent that during this price determination process, and as soon as possible, the QCA should provide their own response to the Issues Papers to help focus the current discussion on key matters that the QCA is deliberating.

A short response to each issue paper is provided below.

1. Form of Regulation

The proposed scope of this issues paper included first, a review of the nature of SunWater's business and revenue adequacy, second, examination of economic issues such as efficiency and efficient management of risks and incentives for SunWater's efficient operation, and finally, price stability and implications for various schemes if an alternative form of regulation was adopted.

These then are broadly covered in Issues Paper 1. However, there are significant gaps including a review of arrangements in other jurisdictions within Australia. There is a high degree of focus on the impact of various alternatives on SunWater as a provider of services (which is typical of a business consultancy) and very little effort directed towards examining price stability and impacts of alternative approaches on customers.

The critical issue is stated in the report on page 10 - since prices are set for the period of the price path, if demand is greater than forecast then SunWater will recover in excess of costs and so will generate a net revenue surplus. Conversely if demand is less than forecast SunWater will have recovered less than its costs and will incur a net revenue deficit.

It is disappointing that the magnitude of the risk of revenue surplus or deficit across all schemes and within each scheme is not explored given tariff structures and long term extraction patterns. This would have enabled the articulation of the risk faced by SunWater as an entity and also that faced by individual customers.

The Issues Paper states that "an analysis of the outcomes of the current price path indicates that SunWater may be bearing more risk than it could be expected to manage compared to its customers". The past 5 years may not be an adequate and relevant period to estimate the future risk facing SunWater and customers. A calculation of the volatility facing SunWater over a twenty year period across schemes would provide a more appropriate indicator of whether the form of price regulation is a significant issue facing the Queensland water sector.

The Issues Paper seems to assume that SunWater has little incentive to reduce costs in the short run in response to lower water deliveries. This is based on limited evidence and should be questioned by the Authority.

It would be beneficial if comparisons with commercial providers in other states were conducted. For example Murrumbidgee Irrigation, an operator of distribution infrastructure, in 2007/08 had water sales that were 57% of that in 2009/10 and also had a reduced operating expenditure, 76% of that in 2009/10.

The ISIS Sugar Partnership supports the principle that SunWater as a monopoly service provider, should be subject to commercial imperative of identifying mechanisms to reduce costs at time of low production and water sales.

As there have been instances of customers paying high fixed costs for extended periods, ISIS feels that formalised rules on hardship should be established to trigger reviews of possible customer hardship. Any revenue shortfall resulting from action to ameliorate hardship should be then recouped in subsequent years. This would have the benefit of also providing an incentive for SunWater to manage costs in time of low allocations.

Recommendation: The form of regulation should provide sufficient incentive to SunWater to pursue efficiencies in their variable cost base.

2. Tariff Structure

The proposed scope of this Issues Paper was to review a range of issues associated with pricing. These included the basis of appropriate prices.

The Paper provides a comprehensive overview of pricing principles and should be a useful training paper for the QCA. As with several of the other papers its voluminous nature does not provide any indication of the importance of particular issues and of their material effect nor of their contribution towards achieving economic efficiency.

The discussion of location based pricing raises issues such as its effect on SunWater revenue and of the appropriate level of disaggregation. In the Bundaberg WSS area, capacity-to-pay limitations exist and users may not be able to pay prices in higher cost scheme segments. This situation will have impacts on the overall level of revenue able to be collected by SunWater within the scheme if any location based pricing policy was considered.

There are a number of statements in the paper which have no justification. For example when discussing recreational costs it is said that 'the costs associated with recreational facilities, therefore, are similar to other regulatory requirements (safety, operational, etc)'. Without a review of a SunWater recreation use strategy with detailed aims and costings, this contention is abstract and lacks foundation.

The Isis Sugar Partnership believes, *prima facie*, that any recreational costs should not be recovered from SunWater customers but from the communities that benefit from the use of these facilities. This should be done either directly, where practicable, or by Government where they have mandated this as a social responsibility of SunWater. However, the first step in this process is to adequately document the magnitude of recreational costs.

The intent of the proposed price indexation process is unclear. The preferred estimation of SunWater costs over the price path has not been assessed in the discussion. It is appropriate to choose a price index that most directly reflects the growth in costs.

Recommendation: As with many of the Issues Papers the QCA should ask SunWater to describe and document the recreational costs by WSS in order to enable an adequate discussion regard assigning recreational costs. The Isis Sugar Partnership is willing to discuss the principle of a social contribution by irrigators to meeting these costs, which is within reasonable bounds.

3. Rate of Return

The Rate of Return Issues Paper is an examination of the 'line in the sand' approach to the valuation of assets for bulk water supply based on the level of service to irrigation, efficient operating costs, capacity to pay and commercial return over 15 years.

Issues included whether a rate of return should be applied to SunWater as a whole, each water supply scheme on an individual basis or each consumer group on a separate basis.

The Issues Paper considers quite specific matters while ignoring larger issues associated with the concept of rate of return. In this respect, the paper states that 'this paper does not examine the absolute rate of return required by SunWater as this will be subject to a separate discussion document". In a sense this makes this response only partial.

The paper concludes that the business of SunWater is relatively standard across supply schemes. However, the paper is rather casual in asserting that the non-diversifiable risk associated with rural, electricity and urban use are not likely to be materially different.

Isis Sugar Partnership believe that this Issues Paper does not adequately outline the assessment of rate of return taking into account that SunWater is a significantly low risk enterprise because it is a monopoly supplier. This is the key point when discussing the policy issue around government enterprises and regulation.

Recommendation: No rate of return should be applied to existing headworks that were developed under previous agreements. New infrastructure works to enhance the capacity or service level of the WSS should be done in agreement with customers based on contracts and with a transparent pricing policy.

4. Capital Cost Allocation

Isis Sugar Partnership agrees that costs should be shared between high priority and medium priority based on reliability of supply. It is difficult at this stage to make a definitive comment on the Headworks Utilisation Factors (HUF) approach. The HUF assessment should be based on historical records of announced allocations and linked to the benefits received. However, any standard approach will be somewhat arbitrary and will not represent a definitively 'correct' apportionment of costs.

We look forward to commenting further, once detail relevant to the Bundaberg WSS is provided. The principle behind the HUFs will vary with system and this should be elaborated for each WSS.

Recommendation: The HUF methodology should be elaborated and discussed at a WSS level.

5. Asset Consumption

The paper recommends continuing with the SunWater renewals annuity. The Isis Sugar Partnership agrees broadly with the conclusions of this Paper. However, it is felt that SunWater should establish a process for asset maintenance schedules that is transparent and subject to review.

There is significant risk that application of a rate of return will force the closure of irrigation schemes leaving government with the financial burden of unproductive assets. This will have a serious affect on future planning of asset renewal.

Recommendation: The renewals annuity should be continued and a formal customer engagement process regards asset planning should be established and implemented.

6. Capacity to Pay

The major irrigated crop in the Isis region is sugarcane. The lack of options such as water trading and the supplementary nature of irrigation will mean that the response of many irrigators to water price increases may be to simply reduce the level of irrigation per hectare.

Any assessment of capacity to pay should explicitly consider the sugar industry in our region as whole (i.e. farm production and the milling sector). Increased prices and associated reduced yields will lead to reduced profitability at a farm level, reduced cane supply at a regional level and less water delivered.

Economic theory behind pricing reforms aims to increase efficiency. This implies significant change in the current practices. In the disconnected irrigation systems of Queensland[1] which have a competitive advantage in sugar production, an increase in the costs of production could simply lead to a decrease in production. This adjustment out of sugar production will affect mill viability and could lead to further mill closure. Mill closures due to lack of throughput would leave efficient cane farmers stranded. Such adjustment would lead to less employment across the sector would have negative effects on towns like Childers, that are reliant on the irrigated sector.

A simple assumption that cane growers may switch to other crops is contestable. This is particularly true if this response is considered across the whole of the 22 Queensland WSS. A significant shift to horticulture would depress prices.

Key considerations of the capacity to pay issues should include:

- any assessment of capacity to pay should adequately inform the QCA at a scale appropriate to match pricing decisions;
- any assessment should be based on indicators that are generally accepted measures of viability (such as those used by banks and business advisors); and
- the QCA should establish transparent principles around its consideration of capacity to pay.

[1] The systems in coastal Queensland are characterised by a dam and a relative short distance to the ocean and a concentrated irrigation area. This is a different bio-physical situation to that facing the Murray-Darling Basin where many dams, irrigation areas and alternative crops can trade water through the connected system.

The Isis Sugar Partnership is willing to provide a specific response to the Capacity to Pay Issues Paper when it is released.

Recommendation: There should be time provided to respond to this issues paper when it is released. An initial review of the issue highlights the need to carry this assessment out at an individual WSS level based on different costs structures associated with irrigation provision and industry profiles.

7. Funding of Spillway Upgrades

In the normal course of events, dam safety would have been an integral component of storage infrastructure. Unfortunately, for bulk water consumers, changes in official expectations have necessitated up-grades of safety provisions in most storages.

As the issues paper indicates, there is little debate about the technicalities of dam safety up-grades, with predetermined protocols giving little scope for local initiatives. Cost allocation is, however, another matter. As the Issues Paper shows, National Competition Policy and National Water Initiative principles imply that costs recoveries from beneficiary parties should reflect their proportional share of the benefits. The first problem is to define the benefits and the second is to measure them.

These problems are addressed, to an extent, in the issues paper with the conclusion that an 'impactor pays' approach may be the preferred basis for cost allocation.

When considering spillway upgrades the traditional notion of 'impactor' pays is not useful. The headworks were built relatively recently to an acceptable standard. In many cases the benefits associated with increased flood protection has increased due to Government planning and policy. As spillways were considered adequate at time of construction, if Government wishes to changes these requirements they should take full responsibility for spillway upgrade costs. In many cases the appetite for risk has been altered by urban development and the associated Government response. In this case then the 'impactor' is not the agricultural sector.

Recommendation: The costs of spillway upgrades undertaken by Government reflecting changing expectations should be met by Government as any enhancement in capacity or service should be met by customers.

Conclusion on Issues Papers

It is important to remind all parties to this review, of the role of these Issues Papers in informing the QCA and the general debate.

In Australia, economic regulators exist, in part, because of the segregation and corporatisation of government businesses, especially infrastructure businesses and their transition to a competitively neutral environment under National Competition Policy.

The driving purpose of economic regulation should be to simulate a competitive market to drive operational and investment efficiencies.

The principal rationale for QCA's role in rural water pricing is to ensure that the monopoly provider does not set prices which are higher than and consumption lower than, that which is competitively efficient. Such market failures, should they occur, requires response by the QCA.

It is often stated that pricing policies will also provide a better allocation of resources. It is not proven that cost recovery pricing policies play a critical role in this respect in the case of water policy. The opening of water allocation trading markets has been the single most effective contributing factor to increasing efficiency in rural water sector. The imposition of a rate of return is part of a pricing policy that is designed for situations where there are significant competing uses for water storages.

It should be noted that other pricing regulators (such as the recent IPART review of the NSW Office of Water) have refused the almost ambit claims by government businesses and agencies for rural water price increases. Regulators have also determined that they bulk water suppliers should be more transparent and efficient in delivering core services.

It will be only by applying such pressure that the QCA will be able to ensure that resources are rationally allocated across the water sector and that in the longer term relevant agencies would operate at least cost and maximum efficiency.

The Isis Sugar partnership wish to highlight the history of development associated with the provision of infrastructure in the region. A "user pays" approach means that irrigators are targeted as the scheme's beneficiaries. In line with the economic developmental aims of the original investment in headworks infrastructure, local businesses who benefit from the increased economic activity in the region due to the increased and reliable production do not contribute. Residential and commercial property owners also benefit as values rise due to the increased demand from a larger workforce. In addition, all levels of government benefit through increased income tax, GST, stamp duty and local council rates. Irrigators enjoy only a small proportion of the total value of the scheme and opted in to the scheme based on an understanding that this was a project that aimed to improve prosperity in the region.

The ISIS Sugar Partnership wishes to reiterate that further detailed discussion of issues at a WSS level is required. We feel that the Issues Papers to date simply provide a common foundation for discussion. Adequate consultation and interaction on policy formulation and on key local issues involved in the pricing process should be provided due consideration notwithstanding the limited timeframe of the overall determination.

2 Detailed discussion on key issues for ISIS Partnership

2.1 Capacity to Pay

Key Point: Capacity to pay studies should be WSS specific and include local input

This Issues Paper reviewed capacity to pay studies and processes carried out in other jurisdictions. Where they have been employed, they have been very specific in outlining an 'accepted' or robust methodology.

However, the most significant issue associated with this approach is the lack of principle associated with the studies, that is, how should the information provided by capacity to pay studies be included into decision making.

Key considerations of the capacity to pay issues should include:

- any assessment should adequately inform the QCA at a scale appropriate to match pricing decisions;
- any assessment should be based on indicators that are generally accepted measures of viability (such as those used by banks and business advisors); and
- the QCA should aim to establish transparent principles around its decision making and use of capacity to pay information.

Where there is a high degree of homogeneity amongst irrigation farms in terms of allocations, irrigation systems, enterprise areas and productivity, a single assessment for a scheme may be adequate.

However, in the Bundaberg area, there are different crops grown and different mill areas. We believe a first step that should be outlined by the QCA is a profile of each WSS customer base and a description of the basis of capacity to pay assessments.

For the Bundaberg Water Supply Scheme any capacity to pay study should consider the following groups:

1. The Riparian Area – sugarcane;
2. Isis– sugarcane;
3. Bundaberg – sugarcane; and
4. Others (eg horticulture and peanuts)

Financial indicators that provide a suitable sophisticated understanding such as whole farm gross margin, net farm income and farm business return should be assessed to capture the nuances associated with various irrigation businesses.

ABARE (2006) has identified a range of factors that will affect the level of impact of any price increases. These include:

- the current level of irrigators' net incomes;
- the contribution of bulk water costs to total costs;
- irrigators' access to water;

- whether they trade water;
- the mix of volumetric and fixed charges; and
- the price elasticity of demand for water.

These considerations should be a starting point for any analysis of capacity to pay.

The lack of options available to irrigated customers in the Isis region means that the price elasticity of demand will not be high. This means that viability will be directly affected. Many of the Issues Papers blithely state that irrigators have adjustment options and can vary irrigation levels without any loss. These types of assessments should be based on strong agronomic and farming systems understanding which is generally unique to each region.

As an indicator of the demand for irrigation water, new Paradise Dam water allocations largely remain unsold, primarily for two reasons:

1. the water pricing is too high; and
2. the security of water is not guaranteed.

Existing water allocation holders (old water) are unlikely to purchase new water allocation to supplement existing water allocations (in years of reduced announced allocations) when Part A charges apply to both the 'old' unsupplied and new nominal allocations. This amounts to paying much higher overall prices for the water. This indicates that the demand for entitlements is relatively elastic in the Isis area.

Key Point: Capacity to pay should take into account the entire sector in a region

The sugar industry in Queensland is an example of closely integrated production and processing sectors. Harvesting and cane transport are highly capital intensive. There have been many mill closures over the past decade as a process of rationalisation has occurred.

Additionally, over 80% of Queensland sugar is exported. The main competitors such as Thailand, India, and South Africa have already existing cost advantages which Australia has to counter with high productivity and quality control. Sugar milling involves high fixed costs. A large throughput of cane is needed to make milling economically viable.

Level of production in an area is the key to mill viability. Mills have taken steps to maintain production through:

- local cane supply strategies;
- purchase / lease of properties;
- support of productivity research; and
- flexible sugar supply contracts to encourage sugar production.

The close integration of industry means that flow-on impacts from the farm level will potentially have large impacts on communities. This adjustment process should be explicitly addressed in any study of capacity to pay and the response to higher water prices.

2.2 History of Development

Key Point: The history of development in the area was based on expectations of supplementary irrigation supply at costs covering operations and maintenance

The development of the Bundaberg WSS was based on providing a supplementary water supply to existing dryland growers and also overcoming shortages in the groundwater system.

Issues such as the price of irrigation water and return on capital were asked by the irrigation sector participants at the time of development. In response to a specific question regards capital costs increasing over the construction period by a stakeholder the then Water Supply Commission provided detailed and direct responses. The following response provided in information sheets at a community discussion highlights the expectations at the time of development.

The Irrigation and water Supply Commission provided a document 'Notes on Stage 1 – Bundaberg Irrigation Project in 1970. The following is an extract.

....charges, for water are not based on the capital cost of the scheme, but are required to provide a reasonable surplus over operation and maintenance costs to provide some contribution, the proportion of which is not fixed, towards the capital costs.

It also stated:

The surplus revenue from water charges (over and above operation and maintenance costs) will not provide more than 1% annual contribution to interest and sinking fund payments...

This history of development has implications for estimating the regulatory asset base (RAB) and is a social issue that cannot be divorced from the discussion of the line in the sand approach to establishing this RAB.

2.3 Line in the Sand and National Water Initiative Principles

Key Point: NSW has used sound principles for the introduction of an asset base into their price determinations that comply with the NWI.

In the past, Australian irrigators have not been charged for the use of major storage and infrastructure assets.

The NSW Independent Price and Regulatory Tribunal (IPART),in confronting this problem, decided not to charge for capital expenditure on irrigation infrastructure prior to 1997, a date which the Tribunal dubbed its 'line in the sand'.

The rationale for this decision was as follows:

The Tribunal expressed its view in 1996 that it believed that many of the rural water infrastructure assets were put in place in the late nineteenth and early twentieth century

because it was a government priority at the time to expand agriculture and rural development[2].

Water prices had until recently contained substantial subsidies and there was never any stated intention by governments across Australia to fully recover these charges.

This situation was altered in 1994 when governments flagged the intention to implement plans to eventually recover the full economic costs of bulk water service. This was strengthened by the agreement of the National Water Initiative in 2004.

In NSW it was determined that

The Tribunal does not believe that irrigators, originally attracted into agriculture by the provision of heavily subsidised infrastructure, should now be expected to pay commercial returns on assets that would not have been put in place if subjected to commercial scrutiny[3].

The Tribunal decided to draw a 'line-in-the-sand' and determine that all water assets put in place prior to 1 July 1997 should not be included in the asset base for pricing purposes. This means that users will not be charged depreciation or a rate of return on pre-1997 expenditure.

However the Tribunal did state and has subsequently reiterated its view that all new expenditure, including renewal and compliance expenditure, post 1997 that is attributed to users will attract commercial rates of return[4].

Undoubtedly, the first irrigators to settle the government owned irrigation schemes in benefitting from such subsidised works, experienced a windfall gain. The expected stream of profit from the subsidies would have been capitalised into the value of irrigation land and, so, subsequent purchasers of irrigation land would pay for the capitalised value of these gains as part of the purchase price, thus nullifying the benefit of the subsidy.

This means that contemporary regulators, in setting bulk water prices, and pursuing full cost recovery, including all assets, face the prospect of putting, at least some irrigators, in the situation of paying twice for their use of pre-line in the sand infrastructure.

The 'line in the sand' approach to sunk infrastructure developments is economically sound, complies with the NWI and is fair.

2.4 Hardship Provisions

The Isis Sugar Partnership believes that the QCA should consider explicitly requesting SunWater / DERM establish a formal hardship policy which outlines explicit provisions.

Any significant price increase will have impacts on capacity to pay. The hardship provision for customers whose farming operations are no longer viable due to the new pricing regime should be explored for the initial period of the determination and also as a business as usual

---

[2] IPART, Bulk Water Prices - An Interim Report, October 1996, pp 55-56.

[3] Ibid, p 57 (Recommendation 5.4).

[4] Ibid, p 57 (Recommendation 5.5).

policy. A period after a significant price rise should be announced that enables the suspension of a service contract whilst leaving all of the infrastructure in place and avoiding any need to pay a termination fee.

2.5 Lower Bound Pricing

Key Point: Past pricing decisions that have led to some irrigators paying excessive costs should be taken into account during this price determination

The Isis Sugar Partnership favours the 'efficient lower bound pricing' principle which has been the intent of previous price path negotiations.

Unfortunately a legacy of the last price path sees one group of irrigators paying above efficient low bound costs which should be corrected during this price path.

In the Isis region riparian irrigators are already paying above lower bound cost recovery. In the most recent price path these irrigators, in actuality, have been paying a rate of return. This past payment should be factored into this determination as a reduction in water charges for riparian irrigators to offset this premium they have been paying.

Riparian irrigators face significant disadvantage compared to channel users. These disadvantages include:

- Requiring to lift water from river (high head equals high horse power motors drawing large electricity consumption); and
- Meeting the costs of infrastructure to move water from river to farm.

Riparian irrigators receive a benefit from the headworks insofar as a consistent flow is maintained in the river but this is only required periodically. By contrast channel users require the headworks for 100% of their water demand. This fact requires consideration in calculating the riparian irrigators Part A charge.

2.6 Future Interactions

Key Point: There should be close and constructive interaction with interested stakeholders of the Bundaberg WSS once detailed information on the draft QCA position is available. This interaction should be on a working basis and focus on inputs into capacity to pay issues and history and fully inform customers of the price implications of options.

The QCA should provide briefings at regional workshops on the Issues Papers that are specific and relevant to the region. The consultation period on the draft report should be extended to allow an adequate time with each scheme for consultations and submissions.

3 References

ABS (2010) 2006 Census Data online. www.abs.gov.au

ABARE (2010) Sugar Outlook to 2014-15. Paper at Outlook 12010 Canberra.

Ashton, D., Goesch, T. and Tran, T. (2006) Impact of Bulk Water Prices on Farm Profitability, ABARE Report prepared for the Independent Pricing and Regulatory Tribunal of New South Wales, Canberra.

CSIRO (2002) Water in the Australian Sugar Industry. Edited by Keith L. Bristow and Di Popham.

Irrigation and Water Supply Commission (1970) Notes on Stage 1 – Bundaberg Irrigation Project.

The Centre for International Economics (October 2007) Sugar versus forestry in Queensland: regional impacts. Prepared for the Australian Sugar Milling Council.

Glasson (2010) The Australian Sugar Industry.

NSW Agriculture (2001) Economic assessment of water charges in the Lachlan Valley Report to the Department of Land and Water Conservation February 2001.

Rural Industries Research & Development Corporation (1997) Sustainability Indicators for Agriculture: Introductory Guide to Regional/National On-Farm Indicators, RIRDC Publication No. 97/72.

Appendix One: The ISIS Region

Water Infrastructure

The Isis region is located in the Bundaberg Water Supply Scheme (WSS). The Fred Haigh Dam (completed in 1975), is the principal bulk water storage in the Bundaberg WSS with a total capacity of 562,000ML. The scheme's other major storage is the Paradise Dam (completed in 2005), which is owned by Burnett Water Pty Ltd, a subsidiary of SunWater.

There are several systems and subsystems in the networks, which involve different degrees of pumping.

The Isis Channel System, including the following sub-systems: Childers and Cordalba; Dinner Hill; Farnsfield and Logging Creek; and North Gregory.

The Sugar Industry

Along with Brazil, Queensland is one of the lowest cost sugar producers in the world, and around 80 per cent of production is exported.

Threats to the industry across the State include:

- sugar price (driven by world economic conditions and competition);
- urban encroachment (particularly in high population areas of Mackay and Bundaberg); and
- alternative crops (in irrigation areas and forestry).

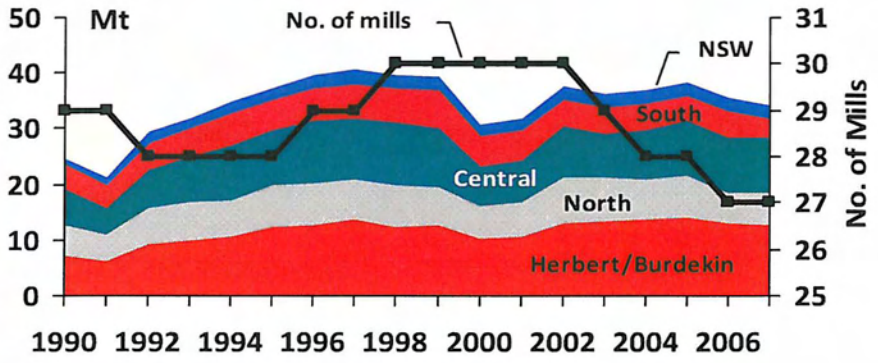
The sugar industry in Queensland is an example of closely integrated production and processing sectors. Harvesting and cane transport are highly capital intensive. There have been many mill closures over the past decade as a process of rationalisation has occurred.

Sugar milling involves high fixed costs. A large throughput of cane is needed to make milling economically viable.

Level of production in an area is the key to mill viability. Mills have taken steps to maintain production through:

- local cane supply strategies;
- purchase / lease of properties;
- support of productivity research; and
- flexible sugar supply contracts to encourage sugar production.

Figure 1 Cane crushed by region and number of mills



Source: Glasson 2010.

Australian mills crush for only around 21 weeks a year compared with 30 to 35 weeks for Brazilian mills, putting Australian milling capital at a 30 to 40 per cent productivity disadvantage (CIE 2007).

Improved on-farm productivity feeds through to higher throughput at a mill level and improves performance of the industry as a whole. The worse situation that could occur as a result of the price determination is one where higher prices could lead to a decrease in utilisation of irrigation, a reduction in yield and overall cane crush.

Cane Growing in the Isis Region

Cane growing in the WSS region is organised around two milling organisations, Isis Central Sugar Mill and Bundaberg Sugar.

Over the past decade the Isis Region has demonstrated that it can maintain financial stability through a period of depressed prices.

Table 1 provides an overview of information relating to the Isis Central Sugar Mill Company Limited.

In 2009 the Isis mill had approximately 218 suppliers. Average yield was 82.08 tonnes per hectare. Yield can vary significantly between years. Over the past 5 years the lowest yield per hectare was 10% lower than average.

The crush for the mill is more variable again associated with yields and cane area. The range between the highest and lowest tonnes crushed over the past 5 years is 290,000 tonnes. This represents a 22% drop over the peak production year in 2005.

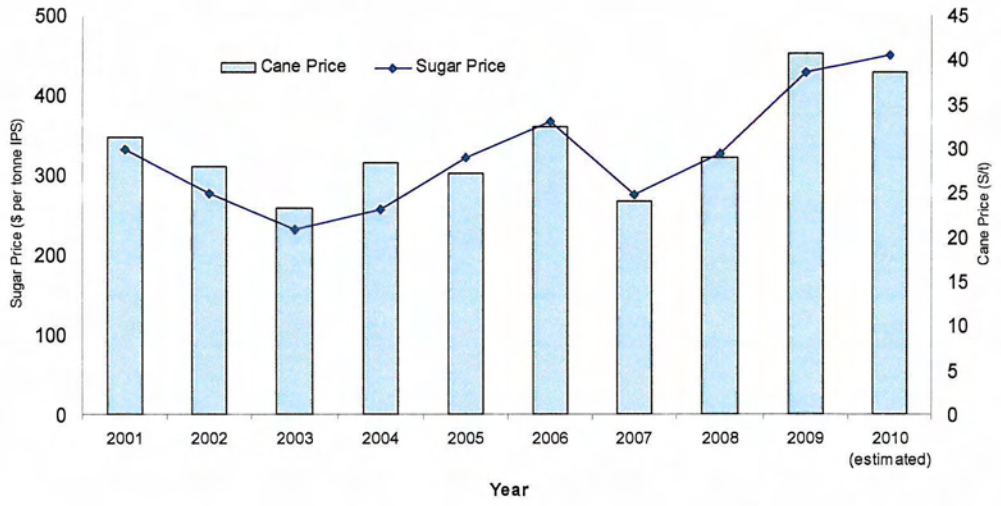
Table 1 Isis Sugar Mill Customers and Production

	2009/10
Growers	193
Area harvested	12,318
Average yield (t/ha)	83.71
Total tonnes (cane)	1,031,080

Source: Isis Central Sugar Mill Company Limited.

Figure 2 highlights the variability of sugar and cane prices received over a 5 year period. The average cane price in the region over the ten years since 2001 is approximately $30 per tonne. The lowest price over the period is $23.29 per tonne which is 23 percent lower than the average.

Figure 2 Sugar and cane prices in the Isis Region



Source: Isis Central Sugar Mill Company Limited.

It is interesting to note that average farm business revenue from cane in 2009 is estimated at approximately $182,000. This is prior to any allowance for costs and returns to labour. If the lowest price was received this estimate drops to $110,000. This magnitude of returns is very low by typical agricultural standards.

The Role of Supplementary Irrigation

For the Isis region irrigation is not essential to produce a harvestable cane crop, but it improves yields and reduces risks of cane farming which is otherwise subject to unreliable rainfall.

Production in the Isis Region is effected by rainfall and irrigation availability. Table 2 provides an outline of the irrigation requirement for cane in areas in Queensland and the role that supplementary irrigation can play.

Table 2 Average (1960-1992) annual total and effective rainfall, irrigation required and allocation (mm) for selected sites in some supplementary irrigation regions

Region	Mean annual rainfall	Effective rain*	Irrigation required	Nominal allocation
Bundaberg	1188	817	540	350
Childers	1026	848	480	400
Mackay	1757	885	550	300
Proserpine	1374	844	700	400

Source: CSIRO.

There can be large irrigation responses possible with well timed applications of irrigation water. However, when considering the decision to irrigate there are many factors that are taken into account. These include questions about water demand by the crop at various growth stages, risks of waterlogging and how to schedule irrigation.

Allocations are often inadequate to meet crop demand and announcements mean that at times the application of water can be inefficient in the sense that it is used when not needed. The value of water is often derived from using it as risk management tool to establish the crop.

On top of uncertainty about these biophysical issues, there are uncertainties about the sugar price, the cost of water and other irrigation costs.

A simple assumption that cane growers may switch to other crops is contestable. This is particularly true if this response is considered across the whole of the 22 Queensland WSS. A significant shift to horticulture would depress prices.

Regional Impacts

It is important that any assessment take into account the sector and flow-on effects. CIE (2007) found that for each sugar mill that closes, it is possible that local economies centred on the mill area could lose:

- economic activity of between $32 million and $111 million a year depending on the future economic prosperity of the sugar industry; and
- between 500 and 1000 people, or between 200 and 400 households.

In 2006 there were 1,303 people employed full-time resident in the Isis Local Government Area. ABS statistics show median individual income ($/weekly) was 67% of the average income across Australia (ABS 2010).

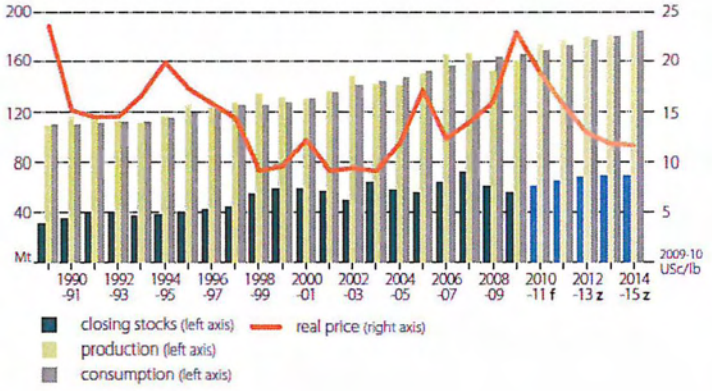
The mill employs an estimated 200 people during the crushing season which last approximately 4-5 months. During the rest of the year the workforce numbers 125. In full time equivalent numbers this represents approximately 150-160 positions. Mill management believe that the mill is the second largest employer in the Isis LGA[5]. The ABS census data for 2006 has Sugar and Confectionery Manufacturing as the fourth largest industry behind crop growing, fruit and tree nut growing and school education (ABS 2010).

World Sugar Market Indicators and Implications for Capacity to Pay Studies

The world indicator price for sugar (Intercontinental Commodities Exchange no.11 spot, fob Caribbean) is forecast to average US23.1 cents a pound in 2009-10, which is US7.2 cents a pound higher than 2008-09, and the highest in real terms since 1989-90 (ABARE 2010).

However, as noted in Figure 3, ABARE is forecasting the real price of sugar to drop over the next few years. As an export focussed industry the sugar price will also be negatively affected over the medium term by a high Australian dollar.

Figure 3 World sugar market indicators



Source: ABARE 2010.

ABARE note that as is common in agricultural industries, high world sugar prices often lead to over investment in sugar production capacity throughout the world.

Once planted, a sugar cane crop can be harvested annually for up to six years in some countries. This explains why there has been a history of relatively short price spikes in the world sugar market, followed by longer periods of lower prices.

It will be important that assessment of capacity to pay take into account market volatility and run a risk assessment of any outcomes.

[5] Personal communication, November 2010, David Timbrell, Company Secretary Isis Central Sugar Mill.

Appendix Two – Review Of Capacity to Pay Studies

Review of Studies

There have been studies carried out in other jurisdictions that examine the issue of capacity to pay. For example ABARE carried out a study for IPART in 2006 and NSW Agriculture has carried out studies in previous price determinations in NSW in the early 2000s.

ABARE (2006)

ABARE identified a range of factors that will affect the level of impact of increased water charges. For the purposes of this submission, interest is in the methodology employed, not the results. These included:

- the level of irrigators' net incomes;
- the contribution of bulk water costs to total costs;
- irrigators' access to water;
- whether irrigators trade water;
- the mix of volumetric and fixed charges; and
- the price elasticity of demand for water.

ABARE was not in a position to conduct a full financial survey. As a result only farm business profit was estimated. Off-farm income and debt servicing costs were not included. Given the assessment is assuming no debt and is assessing the agricultural viability of the land, not specific farms, farm business profit was considered a valid measure of income for the purposes of the study.

Key elements of ABARE methodology:

- use of average year numbers;
- assumptions that irrigators did not respond to increased bulk water charges by changing the use of irrigation water or enterprise mix; and
- indicators of impact where affect on farm cash income and farm business profit.

An average year was determined by syntheses using long term average yields and prices, published gross margin budgets and farmer's responses to the ABARE survey.

NSW Agriculture – Lachlan Study (2001)

This study was commissioned by the then Department of Land and Water Conservation in NSW as part of the IPART determination process. The study aimed to assess the:

- the importance of water to enterprise costs as well as its importance to total farm costs;

- the adjustment responses irrigators are likely to make in response to changes in water charges; and
- the impact of increasing water charges on the viability and profitability of farms.

Previously developed representative whole farm models of different irrigation farming systems were used to asses possible impacts. Data describing the representative farms were collected using a local consensus data (LCD) approach. The approach categorised the entire population of entitlement holders.

Bulk water cost relative to the costs of key enterprises was found to range between 1-6 per cent for 1999/2000 prices and 2-10 per cent for 2003/2004 prices.

The business level responses to increased water charges were considered by the study. These included:

- reducing water use on current enterprises;
- changing enterprise mix;
- substitution of alternative water sources;
- improvements in irrigation efficiencya significant price increase may justify investment in water saving technology; and
- water trading.

NSW Agriculture made a critical point regarding the elasticity of demand for rural water. The price elasticity of demand for water is defined as the percentage change in quantity of water demanded for a one per cent change in its price. Demand is said to be elastic when the elasticity is greater than one (quantity changes proportionally more than price) and inelastic when the elasticity is less than one (quantity changes proportionally less than price).

The demand for water is a derived demand based on the value of water as an input into agricultural production. As a consequence, the value of water is dependent on the profitability of the crops to which it is applied.

Indicating that feasible adjustment options to higher water prices are limited Jones and Fagan (1996) found that water demand remained inelastic for the MIA up to $45 per megalitre. Water price increases assessed by NSW Agriculture found that the price increases would not affect water consumption, that is the price increases do not affect use but simply increase costs.

The percentage change in business returns, for the majority of the representative farms, appeared large because estimated returns were either low or negative to begin with. Nevertheless, they suggested that water price increases for some farms will place additional pressures on farm viability.

The study found that there was a risk that increased charges will significantly reduce farm cash income and compromise farm viability.

Summary

When assessing the impact of increasing water charges on farm profitability appropriate financial indicators should be used. Net farm income and farm business return are the most appropriate indicators. Results provided by other studies are typically provided as farm cash income impacts.

Both studies are relatively silent on how a regulator should use the information generated by the studies. Some test of the level of significance is required.

Definition of Viability

Where the agricultural business is the main source for the family's living expenses, it must generate sufficient funds after meeting variable, overhead and debt servicing costs to support a reasonable standard of living for the family. Anything less than that, brings into question the family's capacity to pay. Alternatively, to be efficient the business must generate surpluses at least equal to the level that the family labour contributors could earn if they were employed doing a task similar to that done on their own farm. This latter measure may or may not indicate a capacity to pay. The first measure is a more satisfactory indication of capacity to pay, though it has the drawback of requiring definition and measurement of what constitutes a reasonable standard of living.

The absolute amount of money necessary to satisfy a family's needs varies from family to family ,depending as much on social history as on the absolute standard itself.

Capacity to pay is an assessment of the business viability and a consideration of the welfare of participants.

The two criteria generally adopted as the indicators of financial viability of agricultural enterprises have been:

- the standard of living measure which is linked to disposable income per household and provides a minimum below which businesses are not considered sustainable; and
- return to capital where the capital includes all assets used in the business but excludes the house and the land associated with domestic requirements.

Guidelines on return to capital provide for comparison with other potential use of family capital. Results from the studies suggested that:

- less than 2% return on capital is a weak use of family capital and reflects a vulnerable business;
- between 2% and 8% is an average return on capital; and
- greater than 8% is a strong return on capital invested in the farm.

Studies conducted by RIRDC (1997) reveal that disposable income per household is a useful measure of financial sustainability. In 1997 these studies provided the following guidelines for disposable income per household:

- less than $30,000 per household per annum indicates a weak, unsustainable financial situation;
- $30,000 - $60,000 per annum indicates an average, borderline situation; and
- more than $60,000 per household per annum suggests a strong sustainable financial position.

This level would be have increased since 1997, though the return on capital criteria would retain their currency.

These types of indicators should be outlined and explicit stated in formulating capacity to pay principles to guide the QCA.

Appendix Three: History of Development in the Region

Overview of Bundaberg History

1901- Construction started on a private scheme undertaken by the Gibson & Howes Company Bingera. This spurred further private investment by mills in the Bundaberg area in the early 1900s. This scheme was active until 1969.

1912 – Irrigation system at Fairymead plantation

1915- Central Sugar Cane Prices Board established

1929 – The Shaw report

1946 – Formation of the Bundaberg and District Irrigation Committee

1966 - Burnett Proposal

1967 - Kolan River Region proposal

1968 – Completion of Wuruma Dam – 1st stage of the Upper Burnett River Water Conservation and Irrigation Scheme.

1960s - Underground water used considerably – concern due to risk of salt water contamination

1969 – 522 irrigation pumps in the Millaquin area on 281 assignments. 27 assignments with no irrigation supplies. Qunaba 134 pumps on 104 assignments.

1969 - DPI and Water Supply Commission – proposed a $47million irrigation scheme.

A brochure prepared to promote this proposal indicated its objectives were to ensure for the Bundaberg region:

- Stabilisation
- Efficiency & Security
- A rescue operation of the presently overtaxed underground basin

Initial development phase of Bundaberg irrigation project announced. Works approved included:

- The Burnett River barrage
- The Kolan River barrage
- The Woongarra distribution system
- The Gooburrum distribution system
- The Abbotsford system

- The Givelda system
- The Monduran Dam Channel from Monduran Dam, via the town of Gin Gins and Sheepstation Creek, to the Burnett River.

Works were to be complete in 74/75 – an additional $5.2 million from the state (total $18million). State approved another $3.1 million for 1975/77.

Stage 2 of the scheme

Dam sites

- Mingo Crossing
- Paradise
- Kalliwa