

THE WATER DEBATE

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What is driving the Water Debate

The current water debate is centred on the water reform initiatives being developed and implemented in each state. In NSW and Queensland the water reforms are being strongly influenced by COAG requirements and the introduction of the Murray-Darling 'cap' on water use, both of which were adopted in 1995. The genesis of these can be attributed to the influence of economic rationalism, the 1992 Rio de Janeiro Agenda 21 declarations and the Barwon-Darling blue green algae outbreak of 1992.

At the same time the influence of the globalisation of knowledge resulting from the communication revolution, better informed and organised pressure groups, community participation and the way the media tends to use conflict based reporting, cannot be ignored. The government agencies now involved in the water debate are significantly different to those of 10 or more years ago.

Also for the cotton industry in part of Queensland the influence of integrated basin management has played an important role. Until the mid 1990's, when Queensland joined the MDBC it never saw it had a role or interest in Murray-Darling basin management. In fact some say that Queensland is still a reluctant participant in MDBC initiatives. Nowadays water management is not solely a valley issue, it must be placed within a basin context, and outcomes can be influenced by basin factors.

The factors influencing the water debate and changes in the water industry and water management will not diminish in the short term. The cotton industry will need to adapt to these changes, whilst continuing to adapt to other changing factors within its business.

What are the Key issues

The issues in the water debate can be looked as those associated with water entitlements and those associated with institutional issues. Whilst they are separate issues within each area there is also issues that cross both areas.

Water Entitlements

There have been some similarities, but also some fundamental differences in how NSW and Queensland have defined their water entitlements. These differences were not an issue until the current water reform initiatives were placed on the table, basin responsibilities recognised and water trading seen as a solution to some of the problems. The key factors with water entitlements are environmental flows, impact of MDBC 'cap' future irrigation shares, and the definition of access shares and security of supply.

Environmental Flows

The process adopted by each state in dealing with this issue differs and will be discussed later. Initially there was not universal acceptance that environmental flows needed to cover the full flow range, and all that was needed was to address the low flow and regulated flow regimes. It is difficult to argue against the scientific view that the share of water provided for the environment needs cover the full flow range. The Australian water based ecology has developed over many hundreds or thousands of years in sympathy with the unique features of the Australian climate. The Australian climate is subject to wide variability and experiences far greater than the variability than most other developed parts of the world. Within the Murray-Darling basin the variability is more extreme in the northern parts of the basin compared with the southern parts. Whilst there may be little evidence of environmental degradation in some valleys, particularly where development is more recent, degradation in the older developed valleys is seen by scientists as indications of what will happen in the newer valleys at a later stage. Of course the hydrology in the separate parts of the Murray-Darling basin differs, as is the quantity and variability of flows and one would assume there are some differences in the ecology.

Within Australia there is not a universal method of defining environmental flow. The surface and groundwater component of the National Land and Water Resources Audit, which will be released later this year will put this factor into the public domain. The Audit is the first national assessment of water availability and development potential since the AWRC review of 1985, which gave no recognition to environmental water needs. It would appear that NSW is the only state that has endeavoured to indicate environmental flow needs over the full flow range and has declined to provide even estimated data where valley models and/or sharing rules have yet to be developed. The industry may therefore need to be cautious in interpreting the information in the Audit, particularly with regard to development opportunities..

MDBC Cap

Initially the cap was introduced as a holding measure to limit further degradation in the Murray-Darling basin. It was intended that it be replaced, in time, with proper environmental flow sharing rules, which will themselves, define a cap on water diversions. Initially the states had different interpretations of what the Cap meant. It was only through the negotiations associated with the Cap implementation and the activities of the Independent Audit Group (IAG) that acceptance was reached that the Cap is not a fixed volume in each valley but a volume that varies with climate and therefore water availability and water access rules.

The cap compliance will be based on hydrologic modelling information and basin wide implementation has been hindered by the delay in developing models for all parts of the basin. Cap compliance is subject to wide review, its review is scrutinised not only by the various jurisdictions in the basin, but also the CAC, environmental and industry groups and the community. Generally the outstanding areas of non compliance, because sharing/management arrangements are yet to be finalised, are the Barwon-Darling

river in NSW, the ACT and Queensland. The ACT compliance is not a significant issue, as its use is likely to be below any cap to be agreed upon. Determining the Cap levels for Queensland and the Barwon-Darling river will be contentious and therefore an issue for the cotton industry. The level determined and compliance has equity issues that will, be discussed later.

MDBC Cap issues for the cotton industry are:

- The Cap is here to stay.
- There is no certainty that the current Cap represents a sustainable level of diversions.
- The Ministerial Council must approve the Cap levels for each valley.
- Cap definition levels adopted in each of the outstanding valleys will be subject to scrutiny of other jurisdictions and various pressure groups.
- These valley caps will be looked at from a basin equity issue. These valley caps will raise equity issues between users in each valley, that the industry may have to form a view on.
- It will be difficult to support a view that the cap in those valleys are based on levels of development currently on the ground, when other jurisdictions and users within those valleys had called for moratoriums on further development 3 or 4 years ago.
- End of valley flows as a method for Cap compliance may not be accepted by other jurisdictions.
- For those valleys where development was in progress at the date of Cap adoption (June 1995), full development of all entitlements is unlikely to be accepted by other jurisdictions.
- Higher levels of uncertainty in valley modelling and management effectiveness may force tighter Cap implementation methods in those valleys than elsewhere.
- Cap levels and the compliance process has statutory status through Schedule F of the MDBC Agreement.
- The industry will need to keep under review the Sustainable Rivers Audit for the Murray-Darling basin which is seen as the next step in achieving the goal of the MDBC Basin Initiative which is

To promote and coordinate effective planning and management for the equitable, efficient and sustainable use of the water, land and other environmental resources of the Murray-Darling Basin.
- The industry will need to keep under review the outcomes of the Cap Project Board review of the operation of the cap, for which comment closed on the 10th July 2000.

Definition of Rights

The basin ethic, COAG obligations to define environmental shares, the MDBC Cap and trading is forcing

the states to address an integrated approach to defining the use of all water that moves across and under the surface of land. The definition of use rights needs to address

- The interception and storage of run-off on the surface and in streams
- The diversion or use from unregulated streams
- The diversion or use from regulated streams

Diversion or use rights on both regulated and unregulated streams should ensure that flood plain water, whether it is flowing or is stationary at some time, are seen as part of the total river flow. NSW has had legal capacity to deal with this and has tended to consider diversions from the flood plain as part of the management of unregulated flows. However in some NSW valleys diversions from the flood plain have not been measured. Queensland new legislation will now provide it with legal capacity to address floodplain diversions, but implementation is conditional. The other jurisdictions may see this part of the legislation as weak and not definitive enough. How Queensland addresses its implementation in the Queensland parts of the Murray-Darling basin will no doubt be watched closely by the other members of the MDBC, the Cap IAG and environmental groups.

Whilst Queensland's new legislation places harvesting of run-off within the overland flow area it has not indicated that it will follow NSW approach of limiting the run-off that can be harvested by up land farm dams.

The cotton industry should recognise that unless effective rights are provided for flood plain use and for the harvesting of run-off in the uplands it will create inequities between other users in that valley and between other valleys within a basin.

Following COAG requirements to separate use rights from land, both states appears to be adopting a common approach in providing separate rights for access and use (NSW) or allocation and works (Qld). In both cases the use or works right will be subject to other legislation or regulation issues associated with land use. Any concerns that independent interests may buy up access rights and take them out of the market are probably unfounded. Because of their likely purchase cost, they will either be placed back on the temporary market or quickly tied to works on the ground.

Concern is regularly expressed that the definition of rights should be common in each state so that there is ability to value access/allocation rights across states and enable proper interstate trading. The rights that require common definition are environmental flow rights in each state, then interested parties can be assured that the volumes of water that are permitted to be extracted from rivers have a common basis. The fact that states may decide to issue access/allocation rights with different levels of supply reliability is a state or even a valley issue. In those parts of the basin where interstate trade is feasible, i.e. on Murray and its interconnected regulated tributary rivers such as the Murrumbidgee and Goulburn and on the NSW and Queensland border rivers, the rights have different levels of reliability and therefore market value. Interstate trade is also linked to state sovereign right to use the water originating in their states and

then cost recovery. For these reasons it is probably unrealistic to expect that the states will forgo their rights and accept common share rights, users may also reject loss of value in their rights. Trade can occur if each state will allow its rights to be used in the other state, and be able to recover the cost of the use of their water in another state at their pricing structure.

Security of Supply

Security of supply is the one issue that all irrigators including the cotton industry have sought for last 10 to 15 years. With the advent of environmental flow shares long term security of supply is probably even further away. Implementation of the MDBC cap where it has occurred has given some security against the level of supply being eroded by the activation of sleeper or dozer licenses.

The adoption of initial valley environmental flow shares via either the NSW process or the Queensland WAMP process will give a 5-year period of secure supply, unless there are serious environmental problems in the valley, which forces amendment to the shares. In both states even this security may be subject to some erosion until environmental flow shares and the management of use on the tributary streams, control of flood plain flow use and harvesting of overland flows are resolved.

The process of providing environmental flow shares will not go away as the process to establish the shares via valley management plans will soon be enshrined in legislation.

It is important for the cotton industry to see that the initial environmental flow shares are resolved quickly, as well as, the resolution of the integrated management of water in the whole valley, ie flood plains, tributary streams and upland overland flows. The industry needs to both support and effectively participate in the development and implementation of the valley management plans and the MDBC cap, and ensure they are supported by the best knowledge available, and there is good and open compliance reporting, including regular updates on the environmental status of rivers.

Equity

A number of equity issues have been identified earlier. They can be summarised as:

- The ability to reach a balance between what is equity in the right of a user to fully utilise a license compared with what is equity in the protection of existing investments of other users.
- Equity issues also apply between river diverters, flood plain and overland flow diversion/ storage and groundwater.
- Cap arrangements for Queensland at a level of development beyond 1993/94 have been accepted as an equity issue and MDBC members are awaiting the outcomes of the WAMP implementation.
- The MDBC will only address Cap equity issues that are confined to those between jurisdictions and between river valleys.

- Equity issues within valleys are matters for each state to resolve.
- Equity issues also apply to those developments that took place after the introduction of the Cap and the water reform processes within each state and those developments that existed at those times.

What should not be ignored is the fact that, the volume of water that can be diverted in a valley is fixed (subject to climate variation) by either the Cap and/or environmental flow processes, and the more users involved or the greater the total shares then everyone's share reduces.

Institutional Issues

Institutional issues are the tools (legislation, policy), processes and organisational structures of government agencies.

MDBC

The role, views and influence of the members of the MDBC and how governments, pressure groups and community see the effectiveness of the MDBC in addressing degradation issues in the basin should not be ignored. If a state, in the eyes of others, hinders actions to effectively address degradation this issue quickly reaches media attention. Recently questions have been raised about the membership of the MDBC with inference that its structure should change. Any change may not be in the best interest of the cotton industry.

Through the Cap implementation process and its technical strength the MDBC is now playing a stronger role in valley water management within the states. Amendments to and implementation of Schedule F in the MDBC agreement, which defines the Cap processes, needs close monitoring. It should also be noted that decisions of the Commission or Ministerial Council require unanimous agreement.

New Water Legislation

I am certain that the cotton growers attending the conference are more familiar than I with the water legislation that affects their activities. I suspect the introduction and adoption of both bills are influenced by COAG requirements and it would be difficult to overturn the major elements of those bills.

However, the some following issues, need to be looked at closely:

- powers given to each Minister,
- appeal mechanisms for management plans and replacement of existing licenses with new rights (NSW, Qld),
- If there are appeal mechanisms for compulsory acquisition of licenses and with compensation in the case of no agreement determined by the Valuer General, why are there no appeal mechanisms for changes to bulk access regime (ie management plans) and compensation

determined by Minister and Treasurer (NSW).

- What is the legal consistency between the issuing of access licenses over 15-year periods and the 5-year status of management plans (and access shares) (NSW)?
- Whilst there are submission arrangements in the development of the plan, there are no mechanisms for appeal (NSW).
- The Minister with agreement of Minister of Environment approves the management plan (NSW). Recent experiences in NSW may suggest this may not be the best-balanced group.
- Why have such a large mix of access license categories (NSW).
- Security to off allocation water is diminished and is subject to 2 year licensing even though valley plans are in place for 5 years (NSW).
- Need for unambiguous powers to control use of flood plains and overland flow (Qld)
- Open processes for the development and implementation of water access rules (Implementation programs in NSW).
- Regular, comprehensive and transparent audit of implementation (Implementation programs in NSW). The minister is not obliged to consult the results of the review with neither valley management committees nor industry groups.

The Water Resource Departments

Government departments are nowadays subject to regular review, reorganisation and budget constraints. Both states are reorganising the operational parts of their organisations that are responsible for the delivery of water and management of the associated infrastructure, to require them to operate commercially. NSW has retained State Water within the department, but 'ring fenced' its operation and management. Queensland is to separate State Water Projects (SWP) from the department and public service and establish it under the Government Owned Corporations Act. On the face of it, this will put the operation area closer to the user and require them to operate in a more commercial way, which has benefits for the industry. However, maintaining staff in the operation area with operational experience and local knowledge needs to be watched. The industry may be disadvantaged, as the regulator will be further away from the user.

With a commercial Board of Directors with specialist expertise and experience, Queensland is better placed to achieve good commercial management of its water delivery functions. NSW has not adopted an independent commercial based board approach for the management of State Water.

Water management and operation at a basin scale is complex and good management requires sound knowledge and experience. It is important that people within departments working in the areas of policy, audit/review and technical/scientific support areas have sound experience in water resources management, the irrigation industry and physical factors in each valley within their states. The cotton

industry should be concerned with any weakening of the effectiveness of these areas of the parent water departments.

Decision Support Tools

Valley hydrologic models are the most important tool used in valley management. The models particularly those operating at daily time steps, essential for environmental flow management, are complex and information hungry. There is only a small group within each water department capable of developing those models, and fewer with operational and modelling knowledge critical for ensuring models are realistic and capable of providing the information required for management decisions. The industry needs to ensure both departments maintain this skill base and offer opportunities to the departments for both groups to stay up to date with irrigator and valley practices, particularly with separation of operational parts of the departments.

During the recent water debate within valleys much effort has been put into discrediting the validity of the models. This could be seen as a means of preventing or delaying decisions on environmental flows and therefore possible changes to irrigator shares. Delays in reaching a decision on environmental shares may not be in the best interest of the valley as a whole, even though it will advantage those continuing development during that time. Reaching the correct balance between ensuring the model is representative of valley process or is highly accurate is not easy, if decisions are required quickly. One thing that needs to be always kept in mind is models are a planning tool not an operational tool, and for planning one is considering the outcomes from one management scenario and comparing it with another scenario. Provided inaccuracies within model apply equally to both scenarios, then model inaccuracy is acceptable for planning purposes.

Pricing

COAG also requires the states to apply true pricing for the supply of water, and if supply is to be subsidised it must be transparent.

NSW has used an independent process to set water prices. Queensland has not. Pricing still has some way to go before it matches real costs, particularly those associated with the provision and/or refurbishment of major water infrastructure. With State Water Projects a government owned corporation, Queensland may reach true water pricing quicker than NSW.

The Cotton Industries Participation in the Debate

How NSW and Queensland governments approached the process of addressing environmental flows created differing irrigator expectations and behaviour. NSW fully confronted the issue, anticipated that most rivers in the inland were degraded and development had reached a limit. It set ground rules, which meant that water would be taken back to meet environmental needs, ignored existing consultative groups and established new groups and therefore created the basis for a confrontationist community debate. All

parties in the debate developed firm positions, which because of the time available for the debate, the ground rules and later advice that the government would decide on the rules if the community group could not reach a decision, all lead to dialogue that was riddled with conflict. Through the early part of the process, the NSW government did not indicate that the final decision rested with government, and community groups felt that the decision was in their hands. When government did make its role clear it further distanced the community groups from government. Queensland on the other hand were always clear that the final decision rested with government.

Queensland on the other hand adopted a process that was more participative, which enabled a better learning process to develop. However there was an impression that Queensland did not believe any of their systems were overstressed and there were really further opportunities for development. It never considered that any of its valleys were close to full development, and therefore probably felt that it could afford to wait for the technical and scientific process to prove that the environment was OK, and then continue along the development path. This may be true for many valleys within Queensland but was not the case for the Condamine-Balonne. Consequently the outcomes of the Condamine-Balonne places Queensland government, valley irrigators and the community in a difficult situation, which is likely to create similar tension to those experienced within NSW. These tensions and position taking by participants in the decision making process are likely to be influenced by the existence of the RAMSAR classified Narran Lakes, and that the process will be closely watched by a number of other interested groups. As mentioned earlier, how Queensland deals with development that occurred during the WAMP will also be closely watched.

Throughout the debate in both states the industry could be seen as rejecting the need for environmental flows, as well as the Cap. In some valleys it tried to divert the blame for the problem, not that they accepted there was one, to other parts of the basin, and implied that what should be done was fix the problem upstream and leave us alone. Even so, within the industry in each valley there were mixed positions, some believed development had gone far enough and others believed development should continue. The impression was that the more vocal, who tended to be those in favour of further development, strived to discredit the need for environmental flows and the validity of the process. There was little evidence that the cotton industry recognised the driving forces behind the change and provided leadership in arriving at a balanced view for each valley and the whole northern part of the Murray-Darling basin.

However there was one valley in NSW that approached this issue differently. In the Macquarie valley the setting of environmental flow shares was dealt with early in the NSW Water Reform initiatives, because of the need to resolve the management of the Macquarie marshes prior to the RAMSAR convention in Australia in 1996. The irrigation industry in the Macquarie generally accepted that change was to occur and quickly decided to participate in the debate and the negotiation of then Macquarie Marsh management plan. It ensured the debate was balanced and not focused singly on the environment. It placed on the table information about the impact of low water availability on farm and community

economies, and accepted loss of water shares in the wetter period's offset by more security in the drier periods. It also gained support for carry-over water accounting. The end result was, irrigation water shares are reduced, but irrigators have greater security of supply with carry-over accounting. The industry can now plan their business over a 2-3 year time frame of water availability.

Following the completion of the Macquarie Marsh management plan, the Macquarie cotton industry played a key role in the development and implementation of the Macquarie Marsh Land and Water Management Plan. They also helped foster the north-west pesticide monitoring program and when monitoring indicated high pesticide levels developed valley BMP guidelines which they promoted to other cotton valleys in NSW. Pesticide management was an important part of the Land and Water Management plan.

There are number of factors that fostered this approach in the Macquarie. The valley from the early 1970's had a valley management committee that included environmental interests and flood plain graziers. It always had to deal with a regulated flow allocation for the Macquarie Marshes, and marsh needs were considered when off-allocation management was first introduced. It was the first valley in NSW with daily flow modelling and there were good liaison and communication between the users and the local departmental staff. It has had some of the better departmental managers and river operators in the state and some of the more forward-looking irrigation industry people. The Macquarie valley is good example of where the industry accepted that change was to take place and set out to optimises its future.

What the Cotton Industry Could Do Better

Some of the things the industry could do better are;

- It should accept and participate actively in the sustainability debate.
- It should accept the reality of the basin ethic.
- It should accept that either 'shooting the messenger or fighting in the streets' will not win the sustainability debate.
- It should not allow the 'greenies' to confine the sustainability debate to environmental factors.
- It needs to keep economic and social factors in the debate, and foster the development and dissemination of independent information in this area..
- It needs to participate in a way that ensures that it determines its own destiny and not have it determined by others.
- It should look at the position taken by the tobacco industry in the lung cancer debate and the outcomes that have followed
- It should decide whether the long-term sustainability of the industry is more important than the interests of individual growers.

- It needs to avoid the impression that the only way a cotton grower can stay in business is to expand by using more water.
- It needs to build on its strength of being an industry with good education, acceptance of technology, innovation, a promoter and user of research and is financially viable.
- It needs to more publicly promote the good things about the cotton industry. The cotton shop in Darling Harbour is good promotion for cotton but not necessarily where the industry stands in the water sustainability debate. Where is the industry promoting the good \$/megalitre data that appeared in the Sydney Morning Herald a few months back, which showed the cotton industry to be the second most economic irrigation industry. The industry probably never came out of the Coopers Creek exercise with a good image.
- It needs to accept that it is impossible for governments to turn back the Cap and environmental flows.
- It needs to work in partnership with government, and ensure that it has regular dialogue with government.
- It needs to accept that will be difficult for governments to pay compensation for loss of water shares, when the creation of those shares (ie dams etc.) were paid by government.
- It needs to explore water savings that can be made through on farm efficiency. It could possibly use some of the savings in partnership deals with government, to add to river environmental shares to balance government cost for compensation or soft loans for efficiency works.
- It needs to keep governments honest about achieving efficiencies in water management and distribution to balance the efficiency being forced on the industry by reduced water shares and higher water costs.
- It should always support operational flexibility in water sharing rules and accept that at times flexibility may not be to their advantage. At the same time 'greenies' do not accept the benefits of operational flexibility, and believe it may give more water to the users at the expense of the environment. For the same reasons they are also suspicious of carry-over and continuous accounting as well as capacity sharing.
- It should explore ways of using independent scientific and technical advice if it is uncomfortable with information supplied from government sources. However it must retain good working relation with government agencies, as any independent advice will need to access government data sources.
- It needs to keep good liaison and communication with the key areas within the water resource management area of government departments. Loss of expertise in these and the technical areas will be detrimental to the industry.

Future Issues

Some of the future issues it needs to explore or keep a watching brief on are:

- Outcomes of the MDB Ministerial Council review of the operation of the Cap.
- Progress in the MDBC Sustainable Rivers audit.
- How the commonwealth uses the powers it has under the 1999 Commonwealth Environment Protection and Biodiversity Conservation Act.
- Outcomes of the new legislation in both NSW and Queensland.
- Development and implementation of valley water management plans in each state.
- How the development of sharing rules to support the valley water management plans will take place, who is involved, who decides, audit/review and reporting processes and appeal mechanisms.
- The ability to achieve long term security of supply.
- The early introduction of carry-over or continuous accounting in each valley.
- Explore whether capacity sharing is a better way to define and manage access rights and environmental shares.
- Does the cotton industry set out to have a peak industry view in the water debate, which transcends individual and even valley factors.