OVERVIEW OF WATER ISSUES AFFECTING COTTON PRODUCTION

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We all know that without water there is no life -- it is our most valuable resource and we all depend on it for our existence.

Australia irrigates some 2 million hectares of land with a farmgate value of about $4.5 billion which is some 20-25% of the total agricultural output of the entire country. To this we can add some $600 million generated by the equipment manufacturing and servicing industries. The flow-on effects from the industry in total are astronomical.

I would like to focus on what I believe to be some of the most important issues now and in the future for the irrigation industry and, in this particular instance, the cotton industry -- whilst however keeping in mind that I don't differentiate between cotton, corn or cross-bred lambs -- but more of that later.

Those issues are -

- water availability
- security of supply
- water quality
- community perceptions - local and other
- research

Water Availability raises two issues -

- current storages and catchment flows
- new sources of water

There are still opportunities to build good yielding storages in some of the catchment headwaters and possibly substantial on-route storage sites on the Western Divide, on the northern end of the Murray-Darling Basin.

Because of the tremendous variability of rainfall and run-off within our catchments, all means of proper management of these valuable resources has to be taken into consideration and on-route storages would greatly facilitate this total resource management and should be looked at seriously by those responsible for the management of the resources.

To improve the availability of water even more significantly, we can look to major works such as diversions -- the Clarence being a good example -- and already a great deal of study has been done over the past 20 years or so. It was heartening to see the State Governor of NSW, Rear Admiral Peter Sinclair, at the opening of the Shires Association Conference in Sydney on June 6, support the idea of diverting unused water resources to the west of the Divide. The Bradfield scheme in Queensland is another. How many times has it been said recently that we need another Snowy type scheme as part of the overall planning for the future?

However good these schemes may be, there is a very strong reluctance from recent and current Governments, both Federal and State, to fund such projects. This in itself is an irony because of the so called need for decentralisation. The Governments (State and Local) are coming under a great deal of pressure from the rapid growth taking place on the coastal strip with its growing population problems and should follow their earlier forebears into encouraging more development inland. There are many excellent examples of the benefits. Just look at towns like Griffith, Wee Waa, Emerald, and so on. The major storages were built specifically for decentralisation and closer settlement reasons and to enhance the rural productivity of this country to where it is today.

Apart from the financial aspects, the environmental movement have added their concerns to the building of dams because of the drowning of forest and destruction of habitat, however, I see a changing attitude in this regard perhaps because of the very bad drought period and the pressures it has put on river health, water users, and the communities as a whole, highlighting the value of water to all concerned.

If the Governments are unable, for whatever reasons, to fund additional works, then I believe we will see much more joint funding such as the Pindari Dam enlargement, which is a joint arrangement between government and irrigators, or perhaps even private funding of much larger projects. Perhaps in the foreseeable future some of this funding may come from the burgeoning coffers of the insurance and superannuation industries to

back the agricultural industry, in view of the GATT Agreement and the potential to our near North. Funding should also be forthcoming for future town water users and it is likely that funding will be available from environmental trusts to secure water for environmental purposes.

One thing is for certain -- if we wish as a nation to maintain the standards of living we have grown accustomed to, then we will have to do a much better job than we do now in managing the available resources.

Security of Supply is the key to the future of irrigation.

Large tracts of Queensland and New South Wales have been gripped by drought during the last three years and this in itself has had a devastating effect on water supplies for all users, but that's not the security of supply I am taking about - droughts are inevitable as are floods and other acts of nature.

I am talking about security of supply in the context of surety of tenure to the water supply available -- in other words, a property right.

We must remember, there is only one bucket full of water in any given system so, with growing populations and other needs for water increasing over time, it is imperative we lock the current resources up by allocating the water to all current users such as stock and domestic, town water supplies, irrigation and the environment. With tradable rights protected by property rights, then water can be applied by the then current economic and physical environment of the time. Unless these steps are taken, and sooner than later, then over the years it is obvious there will be little water for anyone based on economic or physical parameters. We should have planned earlier but, not having the foresight to take some hard decisions, we must plan now, not only for nearby needs, but for the longer term - and I mean into the next 50 years or more.

Fortunately NSW put in place tradable rights some years ago and the Council of Australian Governments (COAG) in their February meeting this year endorsed the principle of tradable rights and property rights for all the States. In June this year, the New South Wales Government, in their White Paper on Water Administration and the Minister's Press Release issued at the time, strongly supported the property right concept.

Once property rights are granted, security of supply becomes a fact, then perhaps the next aspect that should be discussed is continuous accounting for allocations.

This could be done in several ways, e.g. by capacity sharing in the storage where each user has a vertical percentage of the dam capacity. This subject has been well documented by the Centre for Water Policy Research at the University of New England. Another method would be a straight accounting factor with the Supply Authority. There would need to be some rules established as to how long a user could store up allocations and carry them forward.

Some form of continuous accounting would be an advantage to a great many users, giving them flexibility of planning and risk management and I would suggest there would be higher returns made by users of their water supplies by this type of risk management allowing decisions to be made which could embrace more than one water year as we currently know water years.

Quality Factors are of increasing concern to water users and authorities.

Quality is being affected by a whole range of factors; from chemicals to the after-effects of clearing done decades ago, to nutrients from a wide range of sources, including pasture management, to feedlots to urban waste.

Good progress is being made to address these issues through TCM's, research being done through the CRDC and funded by growers, Land & Water Resources Research & Development Corporation [LWRRDC] and in some regions by special levies paid by irrigators in conjunction with the Department of Water Resources, such as in the North and North Western Regions of New South Wales.

Within this latter region, the vast majority of tests are below the drinking water guidelines as laid down by the National Health & Medical Research Council [NH&MRC] but many are in excess of the Australian & New Zealand Environmental Conservation Council [ANZECC] guidelines.

These problems need continuous funding and research work done to establish causes and cures, and the farmers must do their bit also, in taking every precaution possible to

minimise, to best management practice levels, the possibility to pollute. Apart from pollution laws currently in existence and their ramifications, there is another great incentive to reduce the contaminants in our rivers; and that is, the higher the level of contaminants, the more water will be needed, or perhaps taken, to maintain a water quality standard acceptable to the environment and the community at large.

We only have to remember back to the Blue Green Algae outbreak in the Darling River which aroused all levels of Governments and the community and was the major trigger to the now current debate on water quality. You might remember also that the cotton industry was initially blamed for the nutrient loads. This, of course, was proven false but, by then, a lot of damage to our industry had been already been done and it took a great deal of time and effort to try and correct the erroneous impression people had been given by the press and some individuals.

One of the outcomes of the Industry Commission Enquiry into Water Resources and Waste Water was the recommendation that charges for water should rise substantially to reduce waste and make more water available; one of the targets being algae suppression. The IC were recommending charges be brought to the level so to give the governments a 5% return on their investment.

I would suggest increasing costs too significantly would be a dubious move and it would be more appropriate to spend more money on research to improve water utilisation and gain the savings that way.

Community Perceptions of the cotton industry have improved over the years but it is equally true to say there is no cause whatsoever to become complacent.

We have come through eras of changing the face of the local communities by the addition of large scale irrigation from what was traditional farming and grazing to the "White Gold" image of perceived wealth, the very small percentage of growers and other "cowboys" attached to the industry who gave the industry a bad name, especially to water, chemical and spraying.

However, thanks to the rest of our industry and their work and diligence, the image problems have basically been overcome through the work of the Australian Cotton

Foundation, the ACGRA and CRDC, in presenting to the public at large the face of the industry as being responsible for its actions and prepared to spend heavily on research to overcome problems that arise through modern agriculture.

Research:

It is safe to say research and development is **"vital to the continued survival of irrigated agriculture"**.

Presently, approximately $14 million is spent annually on irrigation R & D which is less than ½% of product value and far short of the estimated 3-4% that is generally required to maintain continuing sustainability. Even with this level of spending, there have been significant advances made in recent years and this momentum must not only be kept up, but increased if we are to not only maintain the status quo, but improve our position.

In my view, the major areas needing continuing research are -

- pollution, in its many forms
- water use efficiency of all sorts, from agronomic factors to management practices and equipment
- technical research into weather forecasting to assist in irrigation timing to better suit crop needs at application time and thereby utilise water more efficiently
- cloud-seeding could have potential and should be followed up to see what possibilities there are in the drier areas
- blue-green algae work should continue even though it is linked to pollution and nutrients -- there is evidence that European Carp are closely linked to the algae problem and, from many observers, have "ruined the rivers" in more ways than one.

  Because algae is such an age old problem, having been with us for hundreds of years, care needs to be taken that the cost of strategies for reducing blooms does not outweigh the benefits and, if it does, then to manage the impacts may be far more effective and beneficial than prevention.
- technology transfer is an all important aspect of research. If good research is done and it isn't conveyed to those who should use it, then the effort is wasted.

- It is not the role of researchers and institutions alone to do the extension work, it is also up to the irrigator, or end user, to seek out information from the appropriate source or sources. Too often we sit back and criticise for not "being told".

In summary, it is my view the major factors irrigators and, in this particular case, cotton irrigators, have to face in the immediate to near future, say over the next 10 years, are factors involving pressure on supplies which are brought about by -

- water quality
- security
- research
- price or value of water.

There are many people involved in these issues; Governments, both Federal and State, scientists, environmentalists, lending institutions, communities and, of course, the irrigators themselves, through their local organisations and State Irrigator Councils in NSW and Queensland.

This poses the question then of what irrigators as a whole should be doing about these important issues?

May I offer the following suggestions:

- attend your meetings and support your elected representatives right through the system.
- work for fair and proper resolutions with all genuinely interested parties.
- be progressive and pro-active, otherwise governments or other pro-active groups will decide for you.
- be prepared to make some difficult decisions.
- lastly, but by no means least, remember that in the context of water issues **you are irrigators** and should not be singling yourselves out as this or that crop irrigator. Who knows what you may be irrigating in 10 or so years' time.