

INQUIRY INTO WATER AUGMENTATION

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Date received: 1 August 2016

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Submission to:

Legislative Council General Purpose Standing Committee No. 5

**Inquiry into the Augmentation of Water Supply for
Rural and Regional New South Wales**

Executive Summary

There is a drought affecting most of this nation today. In NSW it is especially evident in the Northern and Western regions. This drought presents us an opportunity to discuss and debate water policy in the most appropriate context - the time when all of us must do with less. This drought presents us an opportunity that we cannot miss. So often in the past at the end of droughts we have relaxed. We have not gone forward to build upon those experiences. We must build policies that contribute through both planning and implementation to what must be our common goal that must always be restated as national excellence in the use of our water. If we cannot build programs that satisfy all regions in the differing elements that affect their supply demand equations for both quantity and quality then there will be little progress made.

I am submitting that:

- I support the development of a water equation (demand and supply out to the middle of this century) for rural and regional New South Wales. Any water equation developed must consist of full cost pricing on both sides so that real economic cost benefit analyses can be undertaken for both water users and the communities which rely on the primary industry.
- I would ask that policy address environmental, social and economic issues equally, as a 'Triple Bottom-Line'. Such approaches have been adopted within most leading businesses and is internationally recognised as 'best practice'. The current 'first up' priority approach, or the single bottom line of environmental concerns is unsustainable and shall lead to the devastation of local agriculture and regional centers and result in missed opportunities for Australia.
- The current system of management assumes that water is sole-purpose, and ignores the fact that as water passes through a river system it is utilised numerous times before it is extracted, evaporated or reaches the end of the system. The needs of industry, high-security licence holders and the environment need to be balanced so as to not unreasonably discount the concerns of any individual water user.
- Regardless of the source, weather patterns have, and are continuing to change. Research and policy can address the effects of changing weather patterns without becoming entangled in the politically charged debate of 'who's-to-blame'.
- Significant research need to be conducted to assess the potential damage from coal seam gas mining. All stakeholders require further information around the major issues of vertical leakage of gas around the outside of the pipes and the, even naturally occurring, release of BTEX into water supplies during fracking so that we may have a more informed and reasoned debate.

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Terms of Reference

As dictated by the Terms of Reference published by the Legislative Council General Purpose Standing Committee No. 5, the inquiry will investigate the performance or effectiveness of the NSW government agencies that are responsible for the augmentation of water supply for rural and regional New South Wales, and in particular:

- a) **investigate the requirement for a water equation (demand and supply out to the middle of this century) for rural and regional New South Wales**
- b) examine the suitability of existing New South Wales water storages and any future schemes for augmentation of water supply for New South Wales, including the potential for aquifer recharge
- c) review the NSW Government's response to the recommendations of the June 2013 report by the Standing Committee on State Development on the adequacy of water storages in New South Wales
- d) examine the 50-year flood history in New South Wales, particularly in northern coastal New South Wales, including the financial and human cost
- e) examine technologies available to mitigate flood damage, including diversion systems, and the scope of infrastructure needed to support water augmentation, by diversion, for rural and regional New South Wales
- f) **examine social, economic and environmental aspects of water management practices in New South Wales and international jurisdictions, including the following case studies:**
 - i. Broken Hill town water supply/Menindee Lakes system
 - ii. South Western NSW water management practices
 - iii. **North Western NSW water management practices**
- g) **the efficiency and sustainability of environmental water being managed by different State and Federal Government departments and agencies**
- h) the management, appropriateness, efficiency and reporting of:
 - i. inter-valley transfers
 - ii. conveyance and loss water
 - iii. carryover
 - iv. the management and reporting of the water market, and
- i) **any other related matter.**

This submission will be addressing points a, f(iii), g & i. (highlighted in bold).

Submission

a) investigate the requirement for a water equation (demand and supply out to the middle of this century) for rural and regional New South Wales

This submission supports the development of a water equation (demand and supply out to the middle of this century) for rural and regional New South Wales. State water policy to-date has addressed the supply demand nexus very narrowly focusing almost exclusively on developing and controlling and ultimately restricting the supply for agricultural and natural resource uses due to seemingly invaluable environmental concerns. That policy must change direction to meet both broader state and more focused regional and local needs. It must also address a holistic demand side of the equation as well as the supply side. Restricting supply has many knock-on effects for regional towns and communities whose tertiary industry relies almost exclusively on the prosperity of the regions' primary industry.

Ultimately a water equation and resulting policy must focus on program implementation and direction at the local level, any other focus will result in delays in implementation and a failure to develop maximum local consensus and will ignore the critical expertise at the local level. The supply and demand sides of the equation must be treated equally in both focus and financing. The tendency in the past has been to deal only with new supply to see this as the only solution to our dilemma.

The potential exists for regional areas to systematically replace and rehabilitate existing systems which can offset supply requirements through mitigating losses. This potential for additional supply through reducing demand should be treated equally to the potential for new supplies.

Saving water through a rehabilitation of the system can be just as powerful a solution to the problem as the development of a new dam or reservoir. There clearly should not be any modelling or financial bias in any water equation or policy towards new supply solutions alone.

Ultimately conservation of such a vital resource must be at the heart of any program. It is implicit in the need to rehabilitate systems as much as it would be in structuring of a new supply. It is very clear that conservation is more than just fixtures and education for demand side management.

We have to look at and aggressively pursue land use issues end use management through technology and thematic education and increasingly match end use needs with quality objectives which consider boarder knock-on effects to regional communities.

A water equation must consist of full cost pricing on both sides so that real economic cost benefit analyses can be undertaken for both water users and the communities which rely on the primary industry.

f) examine social, economic and environmental aspects of water management practices in New South Wales and international jurisdictions, including the following case studies: iii. North Western NSW water management practices

There are numerous reports¹ which point to an increased demand for food, which will come from both external sources, spread between developed and developing countries, especially China and India, and

¹ FAO, UN Food and Agriculture Organisation, *'How to Feed the World'* October 2009; Australian Academy of Science *'Australia 2050 Project'*, Commonwealth Government, *'Intergenerational Report'* 2010; ABARES, *'Food*

also internally where NSW alone is expecting a 50% population increase by 2051. This increase in demand poses several significant challenges but also presents a considerable economic opportunity for Australia.

These challenges and opportunities have traditionally been viewed as matters subsequent to environmental issues. That is, policy and in particular the Commonwealth Water Act, requires actors such as the MDBA to initially set aside a volume of water which is required to maintain and restore environmental assets, and then subsequently, utilising whatever water is leftover, address other concerns such as social and economic outcomes.

I would ask that policy address environmental, social and economic issues equally, as a 'Triple Bottom-Line'. Such approaches have been adopted within most leading businesses and is internationally recognised as 'best practice'. The current 'first up' priority approach, or the single bottom line of environmental concerns is unsustainable and shall lead to the devastation of local agriculture and regional centers and result in missed opportunities for Australia.

g) the efficiency and sustainability of environmental water being managed by different State and Federal Government departments and agencies

Environmental water is essentially released from water storages with the specific aim of providing benefits to downstream river health. There is however, limited information available that details the flow pattern required to maintain and improve species and habitat health. How can the water requirements for an area such as the Gwydir system, downstream of Copeton Dam, be calculated when there is inadequate data in terms of species presence and habitat characteristics? This uncertainty has led to entitlements that are potentially above and beyond the level required to sustain the environment. Given that the environment is essentially considered as an individual water user, with licensed entitlements, these entitlements should be justified.

The allocation of water for environmental purposes should be determined based on reliable information with established water requirements to maintain environmental outcomes in regulated rivers.

Northern New South Wales is a typical semi-arid landscape with extended dry periods. The natural environment, has thrived in these conditions for centuries. The current drought conditions have been difficult for both the environment and individual water users. The restrictions imposed upon water users to the benefit of the environment are unfair and unnecessary considering the regions climatic history.

The current system of management assumes that water is sole-purpose, and ignores the fact that as water passes through a river system it is utilised numerous times before it is extracted, evaporated or reaches the end of the system. Water that is extracted downstream is utilised for environmental purposes upstream until the point of extraction. Taking this into consideration, water could be better managed by the relevant departments through consultation with landholders to achieve timely water releases for water supply purposes with associated environmental benefits. The water flows could mimic natural variability and coincide with flow patterns that encourage native fish breeding whilst delivering water supply resources to the licensee.

Demand to 2050: Opportunities for Australian Agriculture'; ABARES Press Releases, 'China tops list of global opportunities for Australian Agriculture', 4 March 2014; NSW Government 'Intergenerational Report', 2011-12.

Another environmental factor that should be addressed to improve management of environmental water is the impacts of cold water pollution on downstream river health. It has been well documented that water released from the bottom of large dams, as is the case with Copeton Dam, results in significantly lower water temperatures and associated negative effects to downstream aquatic ecosystems. The cold water pollution is of particular concern in regards to breeding cycles coinciding with environmental releases in spring and summer. Whilst this issue has been repeatedly raised and the positive impacts on breeding cycles of fish species are clear there has been a consistently slow response from government.

Overall the needs of industry, high-security licence holders and the environment need to be balanced so as to not unreasonably discount the concerns of any individual water user. As recommended in the 2013 report 'Water for industry that creates wealth, employment and food security for the nation should have a greater priority. The NSW Government needs to ensure that the commercial water supply for towns and utilities and high security needs in regulated rivers are prioritised above environmental needs'².

i) any other related matter.

Climate Change

Climate Change has been excluded entirely from the terms of reference, relegating this issue to the 'other matters' section. Greens and Labor sought to add the potential of climate change to affect water availability including altering the intensity of rain events and evaporation rates to the inquiry's terms of reference.

A significant proportion of the debate appears to get embroiled around who's to blame, ie. Whether climate change is man-made or a historically naturally occurring phenomenon.

Regardless of the source, weather patterns have, and are continuing to change. Research and policy can and should address the effects of changing weather patterns without becoming entangled in the politically charged debate of 'who's-to-blame'.

Mining and Gas Extraction

Mining and Gas Extraction has also been relegated to the 'other matters' section. The debate around coal-seam gas extraction to-date has been ill-informed and propagandic. Marketing supporting gas extraction has focused on foot-prints of the mining infrastructure and the sealing of the pipes with concrete upon decommissioning.

The major issues of vertical leakage of gas around the outside of the pipes and the, even naturally occurring, release of BTEX³ into water supplies during fracking are seldom discussed in community meetings and the public discourse. Policy needs to address this industry development and provide greater resources for analysing the possible impacts it may have on water supplies. Policy must also address the public knowledge base and assist stakeholders in becoming educated in the issues surrounding the practices.

² Standing Committee on State Development Report 37 – June 2013

³ BTEX is an acronym that stands for benzene, toluene, ethylbenzene, and xylenes, which are volatile organic compounds (VOCs)

I am submitting these comments in response to the Terms of Reference published by the Legislative Council General Purpose Standing Committee No. 5. I shall make myself available to address any follow-up queries which may arise.

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