Gwydir Valley Irrigators Association Inc.

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Submission to the NSW Standing Committee on State Development

Inquiry into
Adequacy of Water Storages in NSW

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1. Purpose of this Submission

This document has been developed by the Gwydir Valley Irrigators Association (GVIA) on behalf of its members as a formal submission for consideration by the Standing Committee on State Development into their inquiry into the Adequacy of Water Storages in NSW.

This document represents the concerns and views of the GVIA members. However, each member reserves the right to express their own opinion and is entitled to make their own submission.

The GVIA are members of the NSW Irrigators Council and as a member organisation also endorses the submission made by that organisation. This submission can be viewed in addition to theirs.

2. Introduction

The Gwydir Valley Irrigators Association (GVIA) welcomes the opportunity to provide this submission to the NSW Standing Committee on State Development for their inquiry into the adequacy of water storages in NSW. Especially considering it has been 25 years since a new state owned dam has been built in NSW.

The GVIA welcomes this inquiry as an opportunity for there to be investigations undertaken on the current capacity of our dams to meet the increasing urban, environmental and industrial (mining) demands placed on our current resources.

In preparing for this submission the GVIA are concerned that there has not been enough work to assess the increasing demands on our current water storages. This is increasingly important in light of our Prime Minister's comments that we are not only to produce food and fibre for our own nation but that of our Asian neighbours[1].

The necessity for further work is more pertinent with the increasing demand for environmental water requirements which will reduce the volume of water available to irrigators for production.

This cannot be more evident that in the Gwydir Valley where nearly 20% of the dam's current storage capacity is now for the environment as a result of state based

[1] Hon. Julia Gillard, Prime Minister speech to Global Foundation conference Melbourne, 03 May 2012

policy (the local water sharing plan[2]) and the Commonwealth Government's Water for the Future buy-back programme. The Gwydir now has a reduced maximum production capability resulting from a shift from irrigated to dry land agriculture at reduced yield return.

As a result the GVIA supports the construction of new dams provided there has been proper and due assessment of the need and costs associated with the proposal and that policy is amended to allow for this increased water capacity without third party impacts. Any new dams should also be environmentally sustainable in the long-term.

The GVIA as part of this submission has directly addressed the terms of reference and has raised a number of concerns with the current capacity, planning and management of dams in NSW. The GVIA are not aware of any proposed for the dams within Gwydir Valley but have provided key principle for consideration of dams in other jurisdictions.

The GVIA thank the committee for this opportunity to provide this submission and we are willing to assist the committee with further information if required.

3. About the Association

3.1. Where we are and what we do

The Gwydir Valley Irrigators Association (GVIA) represents in excess of 250 water entitlement holders in the Gwydir Valley, centred around the town of Moree in North-West New South Wales. Our mission is to build a secure future for its members, the environment and the Gwydir Valley community through irrigated agriculture.

Our members hold entitlements within the Gwydir regulated and un-regulated surface water areas, in addition to groundwater resources. All of which are managed through water sharing plans .

The main broadacre irrigated crop is cotton with irrigated wheat, barley and Lucerne also occurring depending on commodity prices. Currently there are also pecans, walnuts, oranges and olives being grown within the region. There is however, significant and potential for expansion into horticulture.

[2] Water Sharing Plan for the Gwydir Regulated Water Source (2004)

The Gwydir Valley Irrigators Association organisation is voluntary, funded by a cents/megalitre levy on regulated, unregulated and groundwater irrigation entitlement. In 2010/11 the levy was paid on in excess of 87% of the eligible entitlement (excludes entitlement held by the State and Federal Government).

The Association is managed by a committee of 11 irrigators and employs a full-time executive officer and a part-time administrative assistant, as well as hosting a Regional Landcare Co-ordinator.

Much of the activity the association revolves around negotiating with government at a Federal, State and Local level to ensure the rights of irrigators are maintained and respected.

While the core activities of the Association are funded entirely through a voluntary levy, the Association does from time to time, undertakes special projects, which can be funded by government.

The GVIA and its members are members of both the National Irrigators Council and the NSW Irrigators Council.

3.2. Association Contacts

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4. Terms of Reference

That the Standing Committee on State Development inquire into and report on the adequacy of water storages in NSW, and in particular:

a) the capacity of existing water storages to meet agricultural, urban, industrial and environmental needs,
b) models for determining water requirements for the agricultural, urban, industrial and environmental sectors,
c) storage management practices to optimise water supply to the agricultural, urban, industrial and environmental sectors,
d) proposals for the construction and/or augmentation of water storages in NSW with regard to storage efficiency, engineering feasibility, safety, community support and cost benefit,
e) water storages and management practices in other Australian and international jurisdictions,
f) any other matter relating to the adequacy of water storages in NSW.

The following sections are intended to address the specific terms of references listed above.

4.1. Capacity

Australia is naturally one the driest continent on earth and our water resources are already at a premium. However, there is and will continue to be increasing pressure on our natural resources to meet the growing needs of the population for food, fibre and water. Pressures include the increased demands of a growing urban population, expansion of environmental water requirements and competition from industries like mining. Climate uncertainty may also provide additional constraints in understanding the current adequacy of our storage systems to meet these future demands.

Significantly in NSW there haven't been additional new storages built to meet these demands in the last 25 years.

However the Gwydir Valley and its agriculture systems have been developed in response to past uncertainties as the catchment is rich in natural resources but with historically highly variable, intermittently reliable water. River regulation in particular the building of Copeton Dam in the late 1970s improved water reliability and allowed agriculturalists to capitalise on the inherently productive landscape through irrigation development.

Copeton Dam has a capacity of 1.3 Million megalitres and stores water resources for urban, industrial, stock and domestic, environmental and irrigation purposes[3]. The Dam captures less than half the total Gwydir River flows, the remaining flows are not regulated and are licenced either as planned environmental water or supplementary flows (for both environmental and irrigation purposes).

The dam is currently at 99.5%[4] capacity, a level rarely reached in its forty year history. At this level all accounts have their maximum account limits and full allocations for the coming water year.

The current status of the dam is short-term relief in a valley with a highly variable nature like the Gwydir. The long-term reliability of General Security water (water stored in the dam) is estimated at 38%[5]. Historically general security allocations are below this level for the majority of years with a few good years, as experienced now[6]. The GVIA's actual average available water determination percentage is 31.43%[6] well below the reported value by the NSW Government.

The Gwydir Valley's irrigation sector has adapted to the nature of our system. Hence, the Gwydir has significant on-farm storage capacity to meet the short-term farm demands for water and to capture localised flow events that are generated below the main storage, which is licenced as supplementary water.

The question remains does Copeton Dam, as with other dams in NSW have the capacity of meet the growing needs of the community especially in terms of producing food and fibre for our own people and abroad.

With Australia's population now at more than 22 million and expected to be in 35.5 million in 2056[7] there will be increasing pressure on these dams to produce food and fibre for the nation. In addition to the Prime Minister recently describing Australia as the "food bowl of Asia"[1] indicating that Australia would have to "strengthen irrigation, grow higher-yield crops"[1] to meet the demands by Asia, there is the additional pressure on meeting future increasing export demands as well.

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[3] Copeton Dam, http://www.statewater.com.au/Water+Delivery/Dams/Copeton+Dam
[4] Real time data, NSW Office of Water, 1 August 2012
[5] Water availability in New South Wales Murray Darling Basin Rivers, 2009. Department of Water and Energy
[6] Gwydir Regulated River Allocation History, www.gvia.org.au/RegulatedRiverAllocationHistory/
[7] Population predictions, 2010. Australian Bureau of Statistics www.abs.gov.au/ausstats/abs@.nsf/Lookup/by%20Subject/1370.0~2010~Chapter~Population%20projections%20%283.4%29

Importantly, Copeton Dam now stores more than 251,320 ML[8] or 18% of the total dam's capacity for the environment, having reduced irrigator's access or procurement from willing sellers. The reduction in storage capacity for irrigation purposes will decrease the irrigation production capacity of the Gwydir valley and there is anecdotal evidence already with many farms returning to dry land production at a reduced yield return. This is the reality of a substantial Commonwealth Government water buy-back programme that by reducing the total water available for irrigation, it will inevitably place further pressure on the nation to meet food and fibre requirements.

Clearly there is now the additional competing pressure placed on dams which were intended for irrigation development, to also be environmental dams. This has come at the cost of our communities who received no direct benefit from such a paradigm shift in policy that affects communities and economy.

Dam within other regions in the state will also have intense pressure placed on them through increasing urban demands and mining, especially open cut coal mining. Although there are significant areas of the Gwydir with petroleum exploration licences for coal seam gas, the competing pressure is assumed to be less on surface water and greater on our extensive, highly valuable ground water resources.

4.2. Planning

To GVIA's knowledge there has not be any work by the NSW Government to plan for future demands, although as highlighted above in Section 4.1 there will be increased pressure on our water resources to meet the growing demands locally and abroad.

The Murray Darling Basin Authority as part of their preparation of the Murray Darling Basin Plan could be considered as having predicted the demands on the environment within the Murray Darling Basin. However, with the uncertainty around the Basin Plan, their ability to forecast or plan for environment water use remains unknown. Not to mention the myriad of concerns regarding the validity of the science utilised to prepare the current draft Basin Plan[9].

[8] Volume consists of planned environmental water (environmental contingency allowance), general security entitlement held by NSW Riverbank and general and high security entitlement fo the Commonwealth Environmental Water Holder

[9] Gwydir Valley Irrigators Association submission on the proposed Murray Darling Basin Plan, 2012 http://www.gvia.org.au/FormsandApplications.htm

The lack of future planning is particularly concerning giving most water sharing plans have mechanisms for managing growth in use of irrigation entitlements, whereas, unpredicted increasing urban demands would have disastrous impacts on other water users if not managed appropriately. Under the current valley cap arrangements total water use is limited therefore an increase in one area of use will result in a reduction in another. There needs to be greater assessment of the urban demands for future planning requirement.

The GVIA does not support the application of the current Integrated Quantity Quality Model (IQQM) for future demand forecasting. This model is used as a tool for planning and evaluating water resource management decisions in the State (regulated rivers) and in the ongoing development of Water Sharing Plans.

IQQM could be used to assess the impact to storage capacity of specific policy changes however each valley model will need to be recalibrated in light of the changes in water use behaviour and competing water use demands to provide more accurate information on our present situation.

4.3. Management

Copeton Dam was a purpose built irrigation dam and its management is coordinated by State Water Corporation. State Water Corporation manages the dam, the Gwydir River and tributaries in the most efficient manner possible as constrained by the technology in place at the moment.

The GVIA would be interested in a more modern river management system adopted by State Water Corporation although that would be out of the scope of this inquiry.

The GVIA believes that the cost of maintaining and managing Copeton Dam should be shared more equitably between all beneficiaries of that facility not just water access users. This would include:

- State-based environmental water users;
- Stock and domestic water users;
- Sport and recreational users; and
- General public who benefit from the inherent flood mitigation role that it has as a reservoir for capturing and storing water that would have otherwise flowed downstream.

In addition, the GVIA is extremely concerned with the decision made by State based dam safety committees to alter the risk management framework of all NSW dams. This decision has resulted in a $60 million project[10] to upgrade the Copeton Dam spillway to include four safety fuse plugs to manage 1:2,000, 1:5,000, 1:10,000 and 1:20,000 year flood events[11]. Prior to the upgrade the dam already had the capacity to release water for a 1:7,500 year flood event with a 1,700m^3/sec release capacity (1,280,000 ML/day)[3].

The benefits from the upgrade have been stated that the new plugs will ensure the integrity of the dam wall and maintain the dam at 80% capacity in a worst case scenario. Although a promising gesture, the fact that daily dam inflows will need to be greater than the 1.3 million ML capacity of Copeton for the fuse plugs to be triggered means that there would already be unprecedented and devastating flooding in the region that it's unlikely our concerns would be of the 'integrity of the dam wall'. State Water Corporation's independent modelling confirms this as the first fuse plug is triggered the township of Moree would already be under nearly 17m of water.

Furthermore, safety briefs at the local Copeton dam safety consultative committee meetings indicate that the upgrade would neither worsen nor improve the predicted loss of life or hardship measures. Again, begging the question what was the purpose then of a $60 million safety upgrade and how the continued roll-out of such programs can be acceptable in terms of government costs.

4.4. Proposals

The GVIA are not aware of any proposals that would be suitable for the Gwydir Valley. We do not support the concept of re-regulation of water throughout our valley below Copeton Dam. As explained earlier in Section 4.1, the on-farm storage developments have essentially managed the issues of delivery timeframes and below dam inflows and hence, re-regulation is not applicable. Furthermore, environmental water use in the Gwydir Valley should also aim to mimic natural flow events and therefore, re-regulation of environmental water would contradict that aim.

[10] Copeton Upgrade http://www.statewater.com.au/Current+Projects/Dam+Safety+Upgrades/Copeton+upgrade

[11] Presentation by State Water to the Gwydir Valley State Water Customer Service Committee meeting, on site at Copeton Dam, 22 March 2012

However, in light of the increasing demands on dams to meet environmental, urban and industrial demands we do support the investigation of alternative sites to ensure there is capacity for dams to meet these growing needs. However, dam construction should consider that there is no third party impacts on that valley's existing water entitlement holders and that the development is considered environmental sustainable.

In NSW there would need to be adjustments to the current valley water sharing plan limits and caps to account for this increased capacity. New policy would be required to direct how this newly stored water is shared between competing users.

As such the GVIA would support the construction of dams provided that the cost of building, maintaining and operating them is not solely borne by water access licence holders, especially when there are now clearly additional beneficiaries from their development. This is particularly important for dams that will have multiple purposes including environmental entitlements or are used for flood mitigation and have other discretionary uses like sport and recreation beneficiaries. Dams are a benefit to all, regardless of their original construction intent and the costs shared by all.

5. Conclusion

The Gwydir Valley Irrigators Association (GVIA) welcomes the opportunity to provide this submission to the NSW Standing Committee on State Development for their inquiry into the adequacy of water storages in NSW. Especially considering it has been 25 years since a new state owned dam has been built in NSW.

The GVIA believe that there has not been enough work to assess the increasing demands on our current water storages to assess their ability to meet the growing needs of our own population and abroad. This is further compounded by an increasing demand for environmental water requirements which will reduce the volume of water available to irrigators for production.

This cannot be more evident that in the Gwydir Valley where nearly 20% of the dam's current storage capacity is now for the environment as a result of state base policy and the Commonwealth Government's Water for the Future buy-back programme. The Gwydir now has a reduced maximum production capability as there is a shift from irrigated agriculture to dry land agriculture, resulting in reduced yield.

The GVIA is also concerned with the state-based policy to increase the maximum risk thresholds of dams as decided by the dam safety committees. This has resulted in a $60 million project that has no direct benefits to the local communities as the safety upgrades neither improve nor worsen the predicted outcomes during such devastating flood events.

The GVIA supports the construction of new dams following appropriate assessment and identification of a need for increased capacity. More work on the capability for our current dams to meet future demands must occur before any new dams could be thoroughly considered. Any new construction should be considered in light of having no third party impacts and a total sharing of costs between all users including discretionary users.

The GVIA are not aware and are not in support of additional dam proposals in the Gwydir including re-regulation.

Submission ends…