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Friday, 21 August 2020

Dear Madam or Sir,

Productivity Commission National Water Inquiry (NWI) 2020 – Ag Institute of Australia's Response

The Ag Institute of Australia (AIA) is Australia's leading body of agricultural and natural resource management professionals, and we are pleased to provide a submission to the Productivity Commission National Water Inquiry (NWI) 2020.

Preamble

The Commission conducted its first national water reform Inquiry in 2017. The Commission found that Australia is managing its water resources well, given our dry and highly variable climate, and the importance of water to our economy. However, subsequent events have shown that the current approaches are not fit for purpose and there remains further work to do. Governments need to complete unfinished business from the NWI, including fully implementing entitlement and planning reforms, and respond to the challenges posed by population growth, climate change and changing community needs and expectations.

The Australian Government has asked the Commission to assess the progress of the Australian, State and Territory Governments in achieving the objectives and outcomes of the NWI and evaluate the need for future water reform. Specifically, the Commission will:

- *assess the progress of jurisdictions towards adopting the principles set out in the NWI*
- *consider the outcomes (including benefits and opportunity costs) of reform efforts*
- *consider the extent to which the NWI reforms help address emerging challenges faced by Governments, water providers and water users, such as climate change or changes in economic circumstances*
- *make recommendations on future reform priorities, and ways in which the NWI could be improved.*

The terms of reference also request the Commission to consider a number of other issues in undertaking the inquiry. These are addressed in the AIA responses below.

AIA Response

We address the Inquiry's specific terms of reference in the following section and accompanying attachments under the general requests as well as the specific Information Requests 4 and 12 (from the position paper). The current background paper from the Productivity Commission is linked here: https://www.pc.gov.au/inquiries/current/water-reform-2020/issues/water-2020-issues.pdf

GENERAL INFORMATION REQUESTS

The interaction of water policy with other areas (such as land use planning and urban development):
Land planning must be directly linked to water policy. Water capture, water delivery and water use are all depending upon the land, its condition and its use. Water without land only occurs in either the ocean or the atmosphere and thus water policy must be considered directly with land use planning. It is clear that metropolitan areas (i.e. Sydney, Melbourne and Adelaide) draw water from inland sources

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when they need it. This is despite the fact that each has a desalination plant that can deliver potable water into their supplies. It is also clear that regulation against recycled water limits such water supplies being sustained – we need to stop such jurisdictions from accessing water from the inland drought declared zones as happened during the recent drought. As the most arid inhabited continent we cannot afford to use water only once.

The impacts of climate change on water resources
These guidelines identify the issues well. They are more drought years; less runoff; projections of increased frequency of drought; higher global temperatures. The overall effect will be less available water than there is now, and we have seen that the water supply to the inland has been severely inadequate. Unless we get smarter and introduce new water into the inland (as happens in other countries e.g. Israel) then the future of the inland is dire.

The provision of reliable water services to regional and remote communities
The experiences of the last dry period showed that numerous communities ran out of water (e.g. Guyra, Tamworth, Armidale, Menindee). That will be the new norm unless new water can be put into the system.

INFORMATION REQUEST 4

What steps have been undertaken — or should be undertaken — to plan for long term changes in climate?

The biggest contribution they can make is to sustain water supply across inland Australia. We cannot continue to depend on natural water supply and so augmentation has to be a priority. We do need to reduce the number of drought years that impact on food security and profitable agribusiness. These agricultural industries are the backbone of the inland workforce (~34% of the workforce in inland areas is agriculture) but they also generate the jobs in other businesses in these communities. If a business cannot remain profitable how can our food security be maintained. The increasingly volatile water supply can be the death to irrigated agricultural industries, food security, to the jobs and therefore regional communities.

The greatest failure of water planning has been the uncontrolled land development allowed for irrigation over the past 5 years across all states in regions impacted the greatest by climate change. A disconnect between land development and water resource impacts results in the growing pressures of water delivery downstream. The predominate increase in irrigation land has occurred in the downstream regions of the Murray and Murrumbidgee river systems, creating water delivery pressures during critical seasonal periods. Each state's drive to encourage development has neglected to consider the whole of system impact across the Murray darling basin.

Our changing climate will impact food security. Water is essential to such security. A proactive focus and encouragement via funding and or financing and education, should increase production to upstream regions which requires less water per unit of production and reduces delivery water requirements. Trading of entitlements upstream needs to be rewarded or downstream trading needs

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to be discount to account for the additional water delivery losses. This needs to occur within smaller management zones along each river system.

Climate change will impact food production. The plan should encourage the conversion of production and water entitlement use from open field to practical, protective cropping, where water and other inputs can be better managed. Protective cropping can create between 200 to 800% efficiency gains and is ideal for water recycling and water capture. Water conservation must be an ongoing challenge that must have continued support. Agency support must be maintained for educators and researchers into continued system and use efficiencies. This is not just the responsibility of industry, it is the responsibility of community (and government) who ultimate benefit from food security. Water delivery and use efficiencies is not primarily for financial benefit, it is required to achieve sustainability for food security. The community requires food security for it's survival and nationally this must be the driver to ensure Australia's own food security. A changing climate will continue to impact water resource availability which means not only commercial / rural water users, but also environmental water users and their associated ecosystems will be impacted. Thus, more work must occur to ensure environmental water delivery and utilisation is as efficient as it is expected from the irrigators.

As climate change impacts all ecosystems, environmental water planning must be truly reflective of how these ecosystems develop. Utilisation of our increasingly scarce and growing water resource demands for food security, means environmental water use must reflect the weather patterns. Water should not be utilised during droughts to supplement ecosystems as this is only an unnatural manipulation of what nature is determining. Our environmental water needs to be utilised to complement nature only. Better monitoring, understanding and management will reduce the competition with water users demands to provide food security.

INFORMATION REQUEST 12

Are there examples of projects that have not met the NWI criteria for new water infrastructure investment?

The delivery of new water is not on the MDB agenda. it is mainly about management of existing water supply. Establishment of new or increased capacity of existing storages should not be considered only as 'new water', it can also be considered as improved efficiencies in management of the existing water resources. Improving the management and delivery of the existing resource is critical, especially with the changing climate and potential of greater storm events and extend dry periods, however that does not change the decreasing water resource.

What principles should inform government funding or financing of new water infrastructure?

New water must be defined as importation of new water resources that did not exist within the catchment. That is it, it could be piped water from the coast or other areas, or from atmospheric water capture. There has been no political appetite to even consider desalination, and other new technologies, atmospheric water capture, engagement between mining and agriculture to share infrastructure, turning rivers inland (at least partly). The list goes on. Funding or financing water infrastructure should be focused around

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providing new water to a catchment. The process must be split between 'New Water' and Improved resource management and utilisation where the business case justifies the investment.

OTHER ISSUES RAISED BY THE AIA IN RELATION TO PROFESSIONALISM IN AGRICULTURE AND WATER MANAGEMENT

Finally, the AIA acknowledges that for our (Australian) water management system to be successful into the future, professionals working in this sector need to be equipped with the highest professional and ethical standards. Agriculturalists develop solutions to problems using new or existing technologies, through innovation, creativity and change. They may also have technical accountability for complex systems with significant levels of risk. This mandate emphasises the need for a strong grounding in a suitable tertiary qualification, continuing technical competence, maintenance of professional and ethical standards, and a commitment to reflective learning and continuing professional development. In 2019, the AIA launched a **Chartered Agriculturalist Scheme** for professionals working in agriculture that offers an opportunity for these professionals to be recognised at the highest level as professionals in the sector. This scheme is open to any professional working in agriculture and not just members of the AIA. The scheme, which accredits professionals as Chartered Agriculturalists (CAg), provides a rigorous mechanism for assuring the highest levels of professionalism, requiring a high professional standard to be met including sitting an examination on ethics. We recommend that the NWI Inquiry consider the significance of the Chartered Scheme as an important approach for ensuring that there is a pipeline of qualified professionals available to deliver the objectives of the water management system as it modernises. The details of this scheme are provided in Attachment 1. The details of the accreditation scheme referred to above, are all on the AIA website at www.aginstitute.com.au.

I also refer the Commission to other relevant policies of the AIA including: 1. Modernising the Research and Development Corporation (RDC) System – Ag Institute of Australia's Response; 2. Sustainable Use of Water in the MDB Policy; 3. Details of our Chartered Agriculturalist Scheme; and 4. A link to one of our experienced members who has developed a proposal for a New Water Hub for delivering new sources of water into inland areas.

We would look forward to further discussions with the Commission in due course. I would be delighted to hear from you

Kind regards,

Dr Turlough Guerin CAg FGIA
Chair, Ag Institute of Australia

Attachment 1 – Modernising the Research and Development Corporation (RDC)
Attachment 2 - Sustainable Use of Water in the MDB Policy
Attachment 3 – AIA's Chartered Agriculturalist Scheme
Attachment 4 – Link to the New Water Project (Proposed by an AIA Member): https://bit.ly/3iSVjoC