RICEGROWERS' ASSOCIATION OF AUSTRALIA INC

SUBMISSION TO THE DEPARTMENT OF AGRICULTURE AND WATER RESOURCES

Efficiency measures – additional criteria for on-farm projects

November 2018

CONTENTS

1. INTRODUCTION

The Ricegrowers' Association of Australia (RGA) welcomes the opportunity to provide our submission to the Department of Agriculture and Water Resource's (DAWR) consultation program for the Efficiency Measures existing on-farm project criteria.

The RGA does not support the recovery of an additional 450 gigalitres of water from productive use. The RGA provides that all water recovered from productive use results in negative social and economic impacts for basin communities, irrigators and industries, in particular due to the flow on effects of increased water prices.

This additional water market pressure is likely to significantly undermine the resilience of our industries and communities and could potentially dismantle the Basin's rice industry. Time without significant government intervention in the market is required to allow these economies and local industries to adjust and stabilise following past water recovery programs. Commencing an additional recovery program now will put many businesses and industries at severe economic risk and result in huge and avoidable economic (and social) impacts. The RGA argues that it is not the intention of the Basin governments' water reform agenda to destroy industries and the related communities.

Hence, for the MDBWI program to genuinely not result in negative social and economic impacts, it must pursue water entitlements that are not currently able to be traded in the productive water market. To this end, the RGA believes that there is opportunity for Efficiency Measures to be carried out in relation to water sources which are not tradeable (such as river operations water and environmental water), and where it can be demonstrated that such projects will not result in unmitigated third party impacts for existing water users. Furthermore, the RGA believes that Complementary Measures can be an efficiency measure in themselves, via enabling the 'Enhanced environmental outcomes' to be achieved using less water. A model should be developed to attribute a water efficiency saving to these measures.

However investigating and developing such projects is not an easy task and requires input and collaboration from all levels of government. The RGA feels that DAWR has a greater role to play to ensure that off-farm projects are identified and investigated outside of the existing tender process and therefore encourages DAWR to take a leadership role in pursuing this opportunity.

Finally, we refer to the Neutrality Test criteria developed by the NSW and Victorian government and urge DAWR to adopt this criteria, to ensure further negative water market and community impacts are considered.

2. THE RICEGROWERS' ASSOCIATION OF AUSTRALIA

The RGA is the collective voice of rice growers in Australia. The RGA represents the interests of around 1200 voluntary members. The main objective of the RGA is to provide members with strong and effective representation on issues affecting the viability of their businesses, their communities and their industry.

The RGA is made up of eight branches located across the Riverina rice growing regions of NSW and Victoria. Each branch annually elects representatives to form the RGA Central Executive. The Central Executive represents their respective branches in determining RGA policy and projects.

The RGA is a member of the National Farmers' Federation, National Irrigators' Council and NSW Irrigators' Council.

3. THE AUSTRALIAN RICE INDUSTRY

The Australian rice industry is located predominantly within the Riverina region of south-west NSW, with two small industries also situated in the Northern Rivers region of north NSW and in Northern Queensland.

The Australian rice industry is reliant upon irrigation, mainly sourced from the Murray and Murrumbidgee valleys. Provided water is available, the Australian rice industry is considered one of the world's most successful, delivering significant yields while leading the world in water use efficiency.

In a typical year the Australian rice industry produces around eight hundred thousand tonnes of paddy rice with a farm gate value of around $350 million. About 80% of this product is exported. With value adding, the total industry worth is well over $1 billion each year. It can be further argued that the full economic potential of the Australian rice industry has not yet been realised with rice being excluded from three recent free trade agreements: Japan, China and North Korea. These markets represent significant potential for the Australian rice.

The rice industry is a significant economic contributor to the Riverina region of NSW. The towns of Griffith, Leeton, Coleambally, Finley, Jerilderie, Deniliquin, Wakool and Moulamein are highly

dependent on rice production for their social and economic wellbeing. Additionally, rice growers have individually invested over $2.5 billion in land, water, plant and equipment and collectively invested around $400 million in mill storage and infrastructure through SunRice.

While the Australian rice industry is very small by world standards, it remains a very competitive supplier of premium rice products into world markets.

4. THE LEGISLATION

Section 7.04 of the Murray Darling Basin Plan defines an Efficiency Measure as:

> *"a measure that operates to decrease the quantity of water required for one or more consumptive uses in a set of surface water SDL resource units, compared with the quantity required under the benchmark conditions of development."*[1]

Measure is defined in section 7.02 of the Basin Plan as follows:

> *"measure means a set of works or measures undertaken or funded by the Commonwealth or a Basin State, including but not limited to the following:*
>
> *(a) changes to water infrastructure;*
> *(b) changes to other infrastructure that affect the hydrology of the Basin;*
> *(c) changes to legal requirements, including to Commonwealth or State laws, that affect the way water is used;*
> *(d) changes in river management and river operational practices;*
> *(e) changes in methods of delivering water."*[2]

We note that for each surface water SDL resource unit[3], there are a number of consumptive uses that should be considered. These include:

- River operations water (losses);
- Planned environmental water;
- Held environmental water;
- Cultural water
- Extractive uses, including industrial, urban use, extractive cultural uses, stock and domestic supply and irrigation.

Furthermore, section 7.09 provides that the objectives for the SDL Adjustment include (amongst other things):

> *(a) for efficiency measures—environmental outcomes are increased while maintaining or improving social and economic outcomes; and*
> *1. enhanced economic, social and environmental outcomes compared with the benchmark environmental outcomes and benchmark conditions of development can be achieved for the Murray-Darling Basin, including through more efficient water use, improved river operations, improved outcomes for the River Murray floodplain, River Murray river water quality, estuarine health, Murray Mouth opening, higher average lake levels and increased in-stream flows and variability;*[4]

[1] https://www.legislation.gov.au/Details/F2017C00078
[2] Ibid
[3] https://data.gov.au/dataset/surface-water-sdl-resource-units/resource/33977e39-73ee-4889-a23f-0c8c767168e0
[4] https://www.legislation.gov.au/Details/F2017C00078

Finally we note that section 7.17(2)(b)(ii) of the Basin Plan provides that the Basin States can propose alternative arrangements for assessing by that State whether or not the water recovery achieves neutral or improved socio-economic outcomes.[5]

5. THE RGA'S RESPONSE

The below outlines RGA's responses to the five key questions provided in the consultation paper:

What opportunities do you see in on-farm projects?

What risks do you think on-farm projects have for you, your business or community?

The RGA does not support the recovery of an additional 450 gigalitres of water from productive use. The RGA provides that all water recovered from productive use results in negative social and economic impacts for basin communities, irrigators and industries, and direct you to such evidence in the following reports:

- The Murray Darling Basin Authorities Southern Basin community profiles[6];
- Aither's 2017 report titled "Water market impacts of on-farm water use efficiency programs that require entitlement transfer";
- EY's 2018 report titled "EY 2018, Analysis of efficiency measures in the Murray-Darling Basin.";
- RMCG's 2016 report titled "GMID socio-economic impact assessment Final Report"; and
- RMCG 2017, Basin Plan – Socio-economic impacts NSW Murray Valley Stage One".

The theory of supply and demand suggests that if you reduce the supply of productive water without a commensurate reduction to the demand for that water, then the value of that water will increase.

The Murray Darling Basin Water Infrastructure (MDBWI) program and similar efficiency programs designed to recover water for the environment through on-farm works clearly reduce the total supply of marketable water (water available for productive use). Furthermore, these program do not result in a commensurate reduction to the demand for water, despite this being the intention.

From the five independent reports above, it is evident that the participating irrigator will generally report an increased demand for water due to their participation in the efficiency program. In our experience as a delivery partner for the On-farm Irrigation Efficiency Program (OFIEP), and through our consultation with growers who have participated in OFIEP, we have identified that the increased demand for water is generally due to two key reasons:

1. The irrigator is able to produce more yield/crops from the subject land due to better layouts/irrigation systems with less labour, hence increasing the demand for water by that irrigator. For example, many irrigators have reported being able to grow both an irrigated summer and winter crop on the one parcel of land due to the infrastructure works therefore doubling the water used per hectare(or area unit);or

2. The irrigator experiences improved productivity hence providing them with the financial ability to purchase a greater volume of water in the market to water additional land on their properties.

[5] Ibid

[6] https://www.mdba.gov.au/publications/mdba-reports/southern-basin-community-profiles

The RGA therefore argues that these programs would be better described as productivity programs rather than an efficiency programs.

Hence, if the MDBWI program continues to pursue on-farm works and the recovery of irrigation water, we are likely to see both a reduction to the supply of water and an increase to the demand for water, placing increasing upwards pressure on the water market.

As outlined in the above stated reports, increases to the value of water will result in negative social and economic impacts for irrigators, communities and industries.

While the RGA acknowledges that there are a number of factors currently placing upwards pressure on the water market, the RGA suggests that the further recovery of productive water is likely to accelerate this trend.

Irrigated industries such as the rice and dairy industries, and regions such as the NSW Murray and Goulburn Murray Irrigation District, are already struggling to adapt to this current trend in the water market, and this is without additional and significant pressures being placed on the market by the MDBWI program.

This additional water market pressure is likely to significantly undermine the resilience of our industries and communities. The SEIFA scores within the MDBA's Southern Basin Community Profiles indicates that, for communities such as Wakool and Finley/Berrigan, their resilience is now so low that the next major challenge for the community will likely have severe impacts on the communities wellbeing.

The recovery of further water from irrigation could potentially dismantle the Basin's rice industry, and this in itself would result in significant flow on impacts for communities such as Deniliquin and Leeton, where our processing sites are located. The RGA argues that it is not the intention of the Basin governments' water reform agenda to destroy industries and the related communities.

Time without significant government intervention in the market is required to allow these economies and local industries to stabilise. Commencing an additional recovery program now will put many businesses and industries at severe economic risk and result in huge and avoidable economic (and social) impacts.

Hence, for the MDBWI program to genuinely not result in negative social and economic impacts, it must pursue water entitlements that are not currently able to be traded in the productive water market.

Furthermore, the RGA notes the following likely impacts of the proposed MDBWI program:

- Removing another 450 gigalitres of water will undermine the significant infrastructure investments already made within the Basin. Murrumbidgee Irrigation, Coleambally Irrigation and Murray Irrigation have collectively invested between half and one billion dollars in improving their respective systems. Approximately a further $2 billion has been invested in the Goulburn Murray Water system through their Connections program. In addition, billions has been invested in on-farm development (both through government programs and private investment). These investments have generally increased the fixed cost of operating these systems. Removing further water from these systems means those fixed costs must be spread across a smaller water entitlement basis – creating the 'swiss cheese effect'. This means the Irrigation Infrastructure Operators must either increase water charges for remaining water users or otherwise rationalise infrastructure – with both outcomes having negative impacts.

- There are business impacts when trading an appreciating asset (entitlement) for a depreciating asset (infrastructure). Irrigators need to be certain that the new infrastructure will deliver improved farm profitability in the majority of years to justify participation. The level of certainty required is not possible with further reduction in productive water.

- There is a long-term dampening effect on a farm business growth (and industry growth) resulting from the program participant transferring the water entitlements to the government. While the government program might accelerate on-farm development, it is likely (given the value of water and productivity gains) that this development would have happened anyway. However, the disadvantage of having participated in the government recovery program, is that the irrigator does not have access to all the water savings. Hence the impact on the farm business over the medium to long term (i.e. 10 years and greater) is negative as it suppresses the ability of the business to grow production using the water efficiencies gained.

- On-farm-efficiency often means labour saving, which results in a reduction in agricultural employment - resulting in a negative socio-economic impacts for the community.

- The government cannot effectively deliver an additional 450 gigalitres of water. The use of this additional water will likely result in flooding impacts for individuals and communities.

- The storage of a further 450 GL of water entitlement may potentially displace existing entitlement in storage, thereby further eroding the reliability of this entitlement.

The Marsden Jacobs Report

The RGA notes the Report commissioned by DAWR and undertaken by Marsden Jacobs titled 'Economic effects of the Commonwealth water recovery programs in the Murrumbidgee Irrigation Area'[7]. The report suggests that the infrastructure programs PIIOP and OFIEP resulted in positive economic impacts for the Murrumbidgee Irrigation Area (MIA).

However, the RGA believes this report is not an accurate reflection of the impact of such infrastructure programs on ALL Basin communities for a number of reasons:

1. The findings of this report are questionable, if not inaccurate. In particular, during the consultation for this report, the RGA provided evidence that the calculations used for determining the improvement in productivity for the rice system projects was inaccurate and grossly overestimated the resulting productivity gains. We are aware that wine grape growers also provided such evidence. However this evidence was ignored in the final report. In addition, the RGA has identified the following inaccuracies:

    a. The increase in economic productivity resulting from the improvements in the price of rice for the period examined could be attributed to the infrastructure projects. This is incorrect.

    b. All or part of the on-farm works would not have occurred but for the infrastructure program. Anecdotal evidence suggests that this is also incorrect.

[7]http://www.google.com/url?sa=t&rct=j&q=&esrc=s&source=web&cd=1&ved=2ahUKEwiCu5CRw-zeAhURWX0KHQpsAJkQFjAAegQICRAC&url=http%3A%2F%2Fwww.agriculture.gov.au%2FSiteCollectionDocuments%2Fwater%2Fbasin-plan%2Feconomic-effects-cwth-water-recovery-mia.docx&usg=AOvVaw0GU8AAoqpOJe7fn-U4CrDF

c. The study does not accurately factor in the reliability factor for general security allocation in the Murrumbidgee valley.

2. The region chosen for the purpose of the study is also not representative of the whole Basin, for the following reasons:

    a. Located in the centre of the region is a major regional centre that is able to provide many of the goods and services used for the purpose of the infrastructure projects. Hence the regional centre is able to consequently absorb the profits from these projects. This is not the case for most irrigation regions.

    b. Over the past decade the Griffith economy has been experiencing rapid growth, to the point that it is considered one of the fastest growing regional centres in Australia. This is due to in particular to the success of a number of processing and manufacturing industries not necessarily reliant upon irrigation.

    c. The region's water asset is made up of a large portion of high security water. A benefit not shared by a number of other irrigation districts.

    The RGA requested that the study be duplicated in other regions of the Basin, such as the NSW Murray region, however Marsden Jacobs advised they run out of time to replicate this study.

For these reasons, the RGA strongly suggests that DAWR should not use this study as evidence of the economic impacts of infrastructure efficiency programs on Basin communities.

Does the existing project criteria adequately manage these opportunities and risks?

The RGA does not believe the existing criteria adequately manages these risks, and in particular the social and economic impacts described above. The criteria does not consider water market impacts at all.

The criteria is also solely based on the input of the participating irrigator and/or their delivery partner, who both have a financial interest in the successful delivery of the program.

What further practical steps could government business and communities take to manage these risks?

The RGA believes that even if on-farm works do not pass the Neutrality test, there are still a number of other options available to DAWR.

Non-productive water sources

In particular, the RGA believes that there is opportunity for Efficiency Measures to be carried out in relation to water sources which are not tradeable, and where it can be demonstrated that such projects will not result in unmitigated third party impacts for existing water users.

To this end, the RGA is supportive of Efficiency Measures being progressed with respect to urban, industrial, off-farm and metering projects. The RGA also suggests two additional sources of water, being river operations water (losses) and environmental water (held and planned). The RGA believes there is much opportunity to investigate improving the efficiency of river operations and environmental water delivery.

While the irrigation industry has been extremely proactive in developing and investing in irrigation infrastructure and practices to ensure the Australian irrigation industry is the most efficient in the world, unfortunately the same standards of efficiency have not yet been applied to river system operations or environmental water management.

Noting that on average over 20,000 gigalitres of water flows throughout the Murray-Darling Basin system each year, a 2% increase in the efficiency of river operation (i.e. by reducing seepage and evaporation) will achieve at the very least an additional 400 gigalitres of high reliability water resource for water users.

The Government and responsible agencies should constantly seek efficiencies in the storage and delivery of water and the use of environmental water, while ensuring minimal third party impacts. In particular, this program represents a great opportunity for our river operators to upgrade infrastructure to ensure that our river operation systems are as efficient as possible (in a similar manner as has occurred with our Irrigation Infrastructure Operators).

However investigating and developing such projects is not an easy task and requires input and collaboration from both State and Federal government agencies. The RGA feels that DAWR has a greater role to play to ensure that off-farm projects are identified and investigated outside of the existing tender process and we therefore encourage DAWR to take a leadership role in pursuing this opportunity.

In this regard, the RGA advises that it has discussed this opportunity with WaterNSW who have indicated that they are interested in investigating this opportunity further.

Complementary measures

The RGA has long sought that the Federal Government integrate catchment management and other complementary resource management activities with current environmental water activities to achieve environmental improvements across the board (such as habitat restoration or weed and pest control). These measures would serve an important purpose of addressing the many and various environmental issues that 'just adding water' cannot resolve. For example, complementary measures are the most suitable methods for addressing water quality in the unregulated system or cold-water pollution in the regulated system.

The RGA believes that these measures could assist in the achievement of the 'Enhanced environmental outcomes' set out in Schedule 5 of the Basin Plan, and for which the additional 450 gigalitres is targeting.

If the implementation of complementary measures can allow for the achievement of the enhanced environmental outcomes using less water than was originally intended, then the RGA believes that this is a matter worth pursuing.

The RGA therefore seeks that DAWR adequately investigate this opportunity, and work with the MDBA to investigate a suitable model to measure the efficiencies achieved by implementing

Complementary Measures, hence allowing the implementation of these measures to contribute to the achievement of the 450 gigalitres.

Research, development and extension to improve irrigation efficiency

Continuing research, development and extension delivery to improve irrigation efficiency is a key focus for the rice industry. However the rice industry is not willing to transfer water to the environment to underpin additional investment in research, development and extension.

However the RGA strongly encourages the Federal government to invest in research, development and extension programs that focus on developing techniques, practices and technologies that improve irrigation water use efficiency (outside of a water recovery program). Further government investment in key research and development programs, such as the rice breeding program, will allow Australian irrigators to achieve significant advances in water use efficiency within a shorter timeframe.

R,D&E and Water Use Efficiency in the Rice Industry

The drive for irrigation water use efficiency has seen the development of new agronomic practices within the Australian rice industry. The adoption of "delayed permanent water" management by Riverina rice farmers has allowing a reduction in water use of up to 2.5 megalitres per hectare against traditional aerially seeded rice. Further efficiencies are expected to be gained through the development of new short season rice varieties.

Furthermore the Australian rice industries current breeding program has a key objective to develop an aerobic variety of rice (i.e. will only require permanent water during the reproductive phase) suitable for the temperate climates of the Riverina rice growing regions. This proposed rice variety will represent a further significant advancement in water use efficiency for the rice industry.

What other criteria could government consider, including any criteria identified by Basin Governments?

The RGA suggests that the proposed additional program criteria and actions do not go far enough in preventing negative social and economic impacts from the proposed MDBWI program.

The RGA is supportive of the additional criteria proposed by the NSW and Victorian governments, however suggests that this criteria can be further strengthened by including the following:

- impact on industry;
- impact on the farm business over the long term (ten years and greater);
- Impacts at a community, district and basin level.

6. CONCLUSION

For the reasons outlined above, the RGA strongly believes that all water recovered from productive use will have negative social and economic impacts for remaining irrigators, irrigation industries and Basin communities.

Hence the RGA urges DAWR to actively seek non-productive water sources. In particular, the RGA suggests DAWR engage with the river operators and environmental water managers to find outcomes that are win-win for both parties, and that address the water recovery requirements.

Furthermore, the RGA urges DAWR to investigate how complementary measures can be used to achieve the 'Enhanced environmental outcomes' set out in Schedule 5 of the Basin Plan, and to find a way for attributing a water recovery outcome to these measures.

Finally, the RGA urges the Federal government to work with the Basin State governments to develop a Neutrality Test that is comprehensive and accurate in measuring the very complex social and economic impacts experienced by individuals, irrigators and communities due to Efficiency Measures. This test, and the related measures, should be developed through further consultation with industry and community.

DAWR must actively seek to develop a relationship with industry and community that is built on a foundation of respect, trust and confidence. This relationship is not only critical to the success of any future MDBWI program, but is also needed to relieve the significant public angst currently being experienced by irrigators and their communities, who are currently confronted with not only the threat of the 450, but also the risk that this government reform will dismantle the industries and communities which they depend upon.

The RGA is happy to continue to work with DAWR to find solutions to any of the matters raised in this submission and thanks DAWR for the opportunity to participate in this consultation process.

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