



National
Irrigators'
Council

healthy rivers; healthy communities; food and fibre for Australia and the world



Submission to the Productivity Commission National Water Reform

*Removing productivity barriers for
a sustainable irrigated agriculture sector*

August 2020

The National Irrigators' Council (NIC) is the national peak body representing irrigators in Australia. The Council supports thirty three (33) member organisations covering the Murray Darling Basin states, irrigation regions and the major agricultural commodity groups. Council members collectively hold approximately 5,500,000 mega litres of water entitlements.

The Council represents the voice of those involved in irrigated agriculture who produce food and fibre for Australia and significant export income. The total gross value of irrigated agricultural production (GVIAP) in 2017-18 increased to \$17.7 billion (up 14%) (Australian Bureau of Statistics)

The sector produces essential food such as milk, fruit, vegetables, rice, grains, sugar, nuts, meat and other commodities such as cotton and wine.

The Council aims to develop projects and policies to ensure the efficiency, viability and sustainability of Australian irrigated agriculture and the security and reliability of water entitlements. The NIC advocates to governments, statutory authorities and other relevant organisations for their adoption.

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Overall comments

Irrigated agriculture is a vital contributor to providing the food and fibre enjoyed by Australians and makes a critical contribution to earning current and future export income for our nation. Australia's irrigators are among the most efficient in the world, with efficiency driven by industry innovation and investment assisted in part by Government programs.

The irrigated agriculture sector is committed to being efficient, productive and to achieving healthy rivers and environment.

We note that the Commission's 2017 inquiry into national water reform examined progress in achieving the objectives and outcomes of the NWI and made recommendations on future reform priorities. The Commission provided a draft report in September 2017, followed by a final report which was submitted to Government at the end of 2017.

We note the Commission's 2017 inquiry found that: *overall, most jurisdictions had made good progress in meeting the objectives and outcomes of the NWI and that the reforms had significantly improved the way water resources are managed and water services delivered, resulting in significant benefits for the community.*

Our focus is around the rural water component of the review. From NIC's vantage point there has been limited obvious progress on many of the recommendations from the 2017 review. NIC supported a number of points in the 2017 review where there appears to have been little progress.

These included management of environmental water and catchment management particularly.

Governments responsible for implementing the previous report have failed to engage and/or even inform industry on many of the outcomes. For example, NIC only discovered that a "National Water Reform Committee" (made up of state and federal government agencies) exists when it was mentioned in the Stakeholder meeting for this review.

This committee, like the Basin Officials Committee, seems to operate with no external visibility making it very difficult for industry and the community to know what – if anything – is being pursued in this space.

Additionally, for this particular review, it is worth looking back at the original agreement to examine the areas of the NWI that have not been implemented. The analysis should be on whether those areas require further focus, on be altered.

In the last review NIC made it clear that we did not entirely support the NWI interpretation and PC recommendations around businesses cases and funding for new or expanded irrigation projects. This remains a core point. Intensive irrigated agriculture has a critical regional development outcome; it has a strong multiplier for regional communities and this broader benefit should be considered as part of project assessment and pricing decisions.

Other key points we made in the 2017 submission that we again reiterate include:

- Irrigators' commitment to a genuine triple bottom line outcome from water reform;
- Irrigators continued advocacy for achieving environmental outcomes not just the ticking off flow targets. This includes the need for complementary, or non-flow, measures to improve the health of our river systems;

- Change fatigue experienced by irrigators and irrigation communities;
- The need for bulk water pricing policies to adequately and transparently account for Community Service Obligations to ensure that irrigators are not paying for expenses that are more appropriately borne by the community as a whole;
- Water property rights and the need to ensure they are not diminished by planning processes and that the allocation of risk is appropriately spread;
- The need to avoid duplication in planning processes;
- Reducing red tape in reporting and monitoring;
- Improving the timeliness and transparency of water market information;
- Opposition to water buyback and the need to ensure that any analysis of “least cost” includes full assessment of community impact and benefit rather than simple dollar cost;
- The reasons member owned Irrigation Infrastructure Operators (IIOs) should be more lightly regulated than Government owned operators;
- The need for less regulation in the charging rules applied to IIOs.

Our core points for the current review can be summarised as:

- Recognise flow on benefits to regional communities from irrigation development / activity, ensure these are factored in when assessing business cases and in pricing decisions.
- Ensure pricing policies do not result in irrigators paying for broad community benefits including for benefits delivered by irrigation infrastructure which provide for community amenity, recreation and environment.
- Reiterate the principle of adaptive management in water reform processes.
- Advocate practical implementation of the principle around avoiding third party impacts from water reform processes.
- Reaffirm the commitment to a water market with improved transparency and consistency.
- Reiterate the recommendations from the 2017 report around management of environmental water including more ground up engagement and to better, more consistent models for whole of catchment management.
- Reiterate the recommendations from 2017 around the recognition that a river environment is more than just flow. Thus, the importance of complementary measures.
- Recognise that allocation decisions are made based on available water, thus they self-adjust to climate variability.
- Recognise that climate change will change patterns of inflows and run-off, with negative impacts on the environment and production. Support consideration of, and continued research into, impacts of climate change, with a view to determining possible actions to equitably ameliorate impacts.
- Endorse the importance of consultation with industry in implementation of recommendations.

Importance of irrigated agriculture in Australia

Australian farmers growing irrigated agriculture product perform a vital role feeding and clothing Australians and the world, making a major contribution to the social and economic wellbeing of many rural communities and to the national economy.

Irrigators operate in all states of Australia producing a variety of fresh and bulk foods and other commodities. Major irrigated foods include fruit and vegetables, dairy products, nuts, rice, fruit juice, wine, sugar, cereal grains and sheep and beef cattle. Sustainable irrigation is the key that has made the Australian cotton industry, for example, a global leader and a highly sought after product.

In 2017-18, total Gross Value of Irrigated Agricultural Production (GVIAP) increased to \$17.7 billion (up 14%).

The four commodities with the highest GVIAP were:

- Fruit and nuts (excluding grapes) at \$4.2 billion (up 20%)
- Vegetables at \$3.4 billion (up 3%)
- Cotton at \$2.3 billion (up 52%); and
- Dairy products at \$2.2 billion (up 37%).

Combined, these four commodities accounted for 69% of total GVIAP for the 2017-18 year.

The Murray Darling Basin is Australia's most important agricultural region, with irrigated agriculture a key component. The most recent ABS figures show that irrigators grew 36% of the value of production in the Basin, worth more than \$8.6 billion in 2017-18. As a wholesale value that number is likely to underestimate the full flow on impact in the communities of the Basin.

Agriculture uses 65-70 per cent of the water consumed in Australia per annum and irrigation uses 90 per cent of that.

The increasing demand for irrigated agriculture and the challenge of declining water availability is driving increases in the efficiency of irrigated agriculture. Efficiency is improved through more water-efficient crop varieties, more precise application of water, technology enabling improved farm management practices, irrigation infrastructure and river management.

With the global demand for food and fibre steadily increasing against the backdrop of a world population forecast to exceed 9 billion by 2050, Australia is well positioned to be at the forefront of this global demand, including taking up the opportunities this presents.

The future prospects for irrigated agriculture in Australia are strong. This is not without challenges for the sector as part of its responsibility in meeting the climate change task and meeting community expectation to reduce emissions, while participating in the broader effort to contribute to global action.

Climate variability is not new for farmers. The agriculture sector has over a long period worked with a variable climate, adapting to significantly reduced water during times of drought. For the irrigated agriculture sector in particular, irrigation storages and the trading platform have been built in Australia as a way to ensure capacity to produce food and fibre during prolonged dry conditions. The ability to store water for use in dry times is the very essence of irrigation, serving as one of many drought mitigation measures and to also serve as a climate change mitigation measure.

Climate change and climate change policy impacts on irrigators in two key areas – water supply (including changes in run-off into catchments) and energy policy. While efforts to ameliorate climate change impacts on the environment are supported, it is not possible to avoid all negative impacts, and it would therefore not be reasonable to expect food and fibre producers and the communities to bear the whole burden. NIC recognises climate predictions that suggest less run off overall and more variability with storm events and drought. This presents challenges for agriculture and the community and in the medium to longer term, it will mean long term averages change.

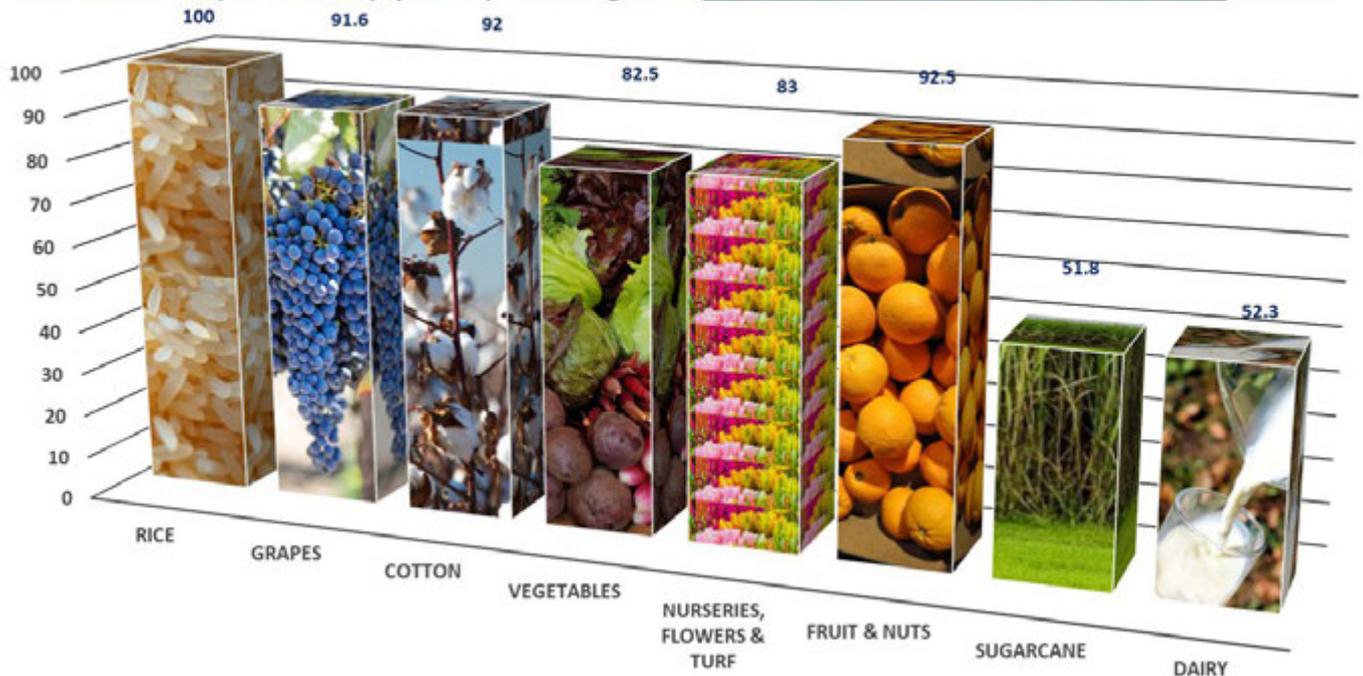
The success of agricultural businesses depends on the capacity of the sector to continue to innovate and adapt, using best practice to manage climatic risks and securing investment for the future. This includes the uptake of opportunities provided for the sector's participation in carbon markets to contribute to Australia's emissions reduction goals.

Energy costs continue to present a major barrier for Australian irrigated agriculture. Energy for pumping and pressurising irrigation water is a significant part of the cost structure for food and fibre production, reducing industry competitiveness.

The irrigated agriculture sector expects to play a part in moving to lower carbon emissions and meeting Australia's international obligations and community expectation. The evidence shows that agriculture has been an enthusiastic leader in the take up of renewable energy – where it is able to be shown to be cost effective for the farming business.

Irrigators grow Australia's food and fibre

% of Australian production (by value) from irrigation (ABS 'gross value of irrigated agricultural production' 2017-18).



Response to information requests

Question 1: NWI priorities and progress

Whether the signatories to the NWI are achieving the agreed objectives and outcomes of the agreement.

Which elements of the NWI have seen slow progress.

Whether there are cases where jurisdictions have moved away from the actions, outcomes and objectives of the NWI

Any other data and information sources that might be useful for assessing progress.

There are a number of aspects of the original intergovernmental agreement which we do not believe have been implemented as intended. Consideration should be given to whether these need to be reinforced, amended or discarded.

Key areas of the original agreement which NIC feels are not honoured, or effectively implemented, are the provisions around third party impacts, the need for adaptive management, the need for 'mutual agreement' for changes which impact access (and therefore reliability) and the need to consider broader socio economic impacts to either avoid them or address 'adjustment' issues.

A few of these are highlighted below, with the relevant sections of the intergovernmental agreement.

Water Access Entitlements and Planning framework outcomes

25 (iv) provide for adaptive management of surface and groundwater systems in order to meet productive, environmental and other public benefit outcomes

A desire for "adaptive management" is expressed right through water reform documentation, including the NWI and the Basin Plan. The reality, unfortunately, is that processes seem to be restrictively bound by targets either set in legislation or resulting from a complete lack of trust.

We see this most clearly in the inability to consider environmental outcomes rather than just flow targets; and in the Basin Plan with the lack of flexibility around the SDLAM projects and methods of achieving 'schedule 5' environmental outcomes.

NIC strongly supports 'adaptive management' and our recommendation for the review is to **reinforce its importance and recommend that this outcome be more firmly pursued in implementation of water reform.**

25. xi) protect the integrity of water access entitlements from unregulated growth in interception through land-use change

The need to ensure that all water interception activities are included in the water entitlements framework is critical. The 2017 review highlighted the need to ensure that extractive industries are included, the same applies to forestry and plantation development. Both can have impacts on water availability.

32. iii) Water access entitlements will be able to be varied, for example to change extraction conditions, where mutually agreed between the government and the entitlement holder.

NIC would contend that this part of the agreement requiring mutual agreement has not been adhered to by Governments. In theory the fundamental system of entitlements is not changed, however the

reality of the development of Water Resources Plans, changes to policies around reserves and allocation, introduction of protections for first flush flows and a range of other measures is that they impact reliability and often extraction conditions. In some cases the changes are for good reason and have a degree of industry support but it would certainly not be fair to characterise most as being “mutually agreed”.

NIC would agree that the principle overall is a very important one. There must be adequate consultation, there should not be action which changes reliability without considering impacts on water users and where “mutual agreement” is not possible, then the principle should include a requirement for compensation for any Government decision that impacts reliability.

97. The Parties agree to address significant adjustment issues affecting water access entitlement holders and communities that may arise from reductions in water availability as a result of implementing the reforms proposed in this Agreement

The record, thus far, of addressing significant adjustment issues via the Basin Plan experience, is mixed and in cases where recovery has been primarily through buy back, it has been very poor. The recent report from the independent panel chaired by Robbie Sefton has confirmed the very patchy and, as a result, often unsuccessful impact of structural adjustment programs in regional areas. This is not just an issue about water reform, it is more fundamentally an issue about the effectiveness and consistency of regional development programs. The original agreement does (rightly) appear to emphasise avoiding negative impacts as the first priority. Thus the steps set out in [section 79](#) which prioritise options with lower impacts and the need for socio economic impact assessment.

This agreement is not going to solve the problems caused by regional development policies that fail to focus on developing long term sustainable economic bases for regions, although this is a vital issue. What the agreement and subsequent implementation could do is more fully recognise the flow on benefits of irrigated agriculture for communities. There is a broader question about the effectiveness of adjustment and regional development programs to which the Productivity Commission might want to add its consideration.

Irrigated agriculture is generally more intensive than dry land agriculture; it produces more jobs on farm and greater flow on benefits off farm. That in no way denigrates the vital contribution of dry land agriculture in regional areas, but NWI documents should recognise the much bigger benefit and multiplier from irrigated agriculture. Considered in the negative where water is removed from production and in the positive, in estimating flow on benefits to communities, from expanded irrigation activity.

Water Markets and Trading

The agreement in this section sets out a series of market objectives on ‘compatible, publicly accessible and reliable water registers’ and in section 60. “The States and Territories agree to establish by 2007 compatible institutional and regulatory arrangements that facilitate intra and interstate trade, and manage differences in entitlement reliability, supply losses, supply source constraints, trading between systems, and cap requirements, ...”

NIC recognises that the ACCC is likely to make recommendations around these points however we feel that it needs to be noted that the water market is probably doing exactly the job it was intended to do. The goals around compatible water registers, and implying ease of transaction, understandability etc - are a long way off achieving targets and are now in many ways more than a decade overdue.

In this section as in some others there is a principle embedded around 'third party' impacts. It is hard to see many areas of water reform where third party impacts have been extensively considered or ameliorated. NIC has made [a full submission to the ACCC inquiry](#) where we emphasise our strong support for the water market overall, for the benefits it has brought in increasing the value of agricultural production in the Murray Darling Basin, in creating a secure property right and in achieving the overall goal of allowing water to go to the highest value use (National Irrigators Council, 2019).

Despite the very positive elements of the market (outlined in more detail in the ACCC submission), it is undeniable that there have been third party impacts. It is probably reasonable to suggest that governments are not responsible for people or businesses that lose money due to decisions they have made regarding participation in a market. However, there is a broader question about impacts on communities and regions when there are large transfers of entitlement or allocation from areas where they used to be used for production to growth areas.

The highest profile example of this is the movement of water from dairy to nuts. The water entitlement and allocation that has moved to areas like Mildura has grown jobs and economic activity in that area. That community is an undoubted winner from the water market, it would be reasonable though to say that some predominantly dairy communities up river have not fared as well and that, although individual water owners have made decision that might have benefited them, there has been third party impact on the community.

Similarly changes to demand driven by growth in some crops do impact price and that has an impact on viability of other producers.

How the principles of the intergovernmental agreement could practically reflect this third party impact is debateable. The point here is that if the agreement is to talk about avoiding third party impacts it must prompt greater consideration by Government about how to actually do that in a way that reflects the fact that impacts are broader than were perhaps originally envisaged.

Principles around water recovery

Section 79 includes principles around water recovery (as mentioned above).

79. ii) where it is necessary to recover water to achieve modified environmental and other public benefit outcomes, to adopt the following principles for determining the most effective and efficient mix of water recovery measures:

- a) *consideration of all available options for water recovery, including:*
 - *investment in more efficient water infrastructure;*
 - *purchase of water on the market, by tender or other market based*
 - *mechanisms; investment in more efficient water management practices, including*
 - *measurement; or*
 - *investment in behavioural change to reduce urban water consumption;*

- b) *assessment of the socio-economic costs and benefits of the most prospective options, including on downstream users, and the implications for wider natural resource management outcomes (eg. impacts on water quality or salinity); and*

c) *selection of measures primarily on the basis of cost-effectiveness, and with a view to managing socio-economic impacts.*

NIC would like to emphasise that the principle solidly incorporates a focus on socio-economic impacts. This is appropriate; the interpretation of socio-economic impacts should be broad enough to take in the flow on impacts in a community. Given the Murray Darling Basin is the only area specifically affected, to date, by application of this principle we can only use that, in assessing the practical implementation by Governments.

As mentioned above, NIC would consider that the record of avoiding or mitigating negative socio-economic impact has been mixed and in areas where recovery has been predominantly via purchase, it has been unsuccessful.

NIC would like to see a stronger focus on these principles in implementation to ensure that broader community impacts are always considered.

NIC would also note that, in the Murray Darling Basin, reduction in urban use has not contributed particularly usefully to water recovery towards the Basin Plan. Governments need to be reminded of this point particularly when considering the role savings in consumption for Canberra and Adelaide might play in achieving the 'up-water' component of the Basin Plan.

Third party and "downstream" impacts

Several parts of the agreement refer to considering third party impacts and some to avoiding impacts on "downstream users".

There would be a significant portion of Murray Darling Basin communities and irrigators who would say – with some justification – that the principles around avoiding negative third party impact have not been carried through by Government. In fact, criticism of water reform as being in breach of the NWI agreement because it has caused negative third party impacts is common.

As it stands this principle is not well enough defined.

Do third party impacts need to be assessed when a decision is being made? How far do they extend, what impact is unacceptable and where is the balance between broad benefit versus localised impact? There would be general agreement that as far as possible we should seek to avoid negative third-party impacts from water reform and the principle should stand but it should also have meaning in practice.

The agreement mentions in a couple of places avoiding impact on 'downstream users'. It would be worthwhile acknowledging the reform decisions and approval decisions (ie for developments) can have 'up-stream' impacts as well, particularly if they change water use patterns.

Question 2: NWI adequacy to address challenges

***Is the NWI adequate to help Governments address the identified challenges?
Are there any other current or emerging water management challenges where the NWI could be strengthened?***

The original intent and principles of the NWI are sound. In the section above, NIC highlights a number of areas where the principles are not being implemented.

A capacity is required to be able to clarify the intent of some principles and where it is clear that they are not being implemented, to work out why and whether that means they are not actually supported. As outlined above, NIC would argue that the vital role water for irrigation plays in regional development and the economic health of country communities, needs to be better embedded in the principles. It is noted that the Productivity Commission's reports and discussion paper have questioned whether Government investment has met NWI principles regarding investment in new projects.

The Commission's discussion paper says "In 2017, the Commission found a number of new infrastructure projects had not met a requirement for transparent benefit cost analysis prior to government funding being committed. The Commission proposed additional principles in its 2017 inquiry to ensure that any infrastructure funded or financed by Governments is viable and sustainable" (Productivity Commission , 2020, p. 24) .

NIC suggested in 2017 that the principles needed to be broader to recognise that regional development objectives are a very legitimate aim for Government and that irrigation provides one of the few ways a project can be funded that produces ongoing economic activity and jobs.

NIC sensed some frustration in the 2017 report and in the way it is raised again in the discussion paper. Frustration that Government continues to invest in projects without, as the Commission sees it, meeting the requirement. NIC would suggest that in considering how the implementation of the NWI might be improved the Commission should consider recognising that it is entirely legitimate for an elected Government to put a regional development objective firmly into the consideration of a new infrastructure project. Projects should still require a cost benefit analysis but the flow on benefits included should be broad and long term.

Other challenges are dealt with under other questions.

Question 4: Extreme events & Climate change

How effective are water plans at managing extreme events such as severe drought?

Are NWI principles being applied at these times?

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

What lessons have recent extreme event (bushfires and Covid-19) provided for planning?

Australia has always had major climate variability and continues to face major challenges associated with climate change.

This variability is why extensive water storage and irrigation systems have been built and Australia's irrigation infrastructure is the reason we can continue to grow food and fibre in dry times. Irrigation infrastructure (and the irrigating farmers) underpin our capacity to grow product for domestic use and for export.

Planning for extreme events is challenging but NIC views that existing core principles around priority are appropriate. In the Murray Darling Basin there is a clear hierarchy of priorities with human needs at the top and a series of steps in plans to deal with increasingly severe drought.

NIC has outlined [a climate change policy](#), which says: "National Irrigators' Council (NIC) recognises the challenges for Australia's productive irrigated agriculture sector posed by a changing climate.

Farmers have long been at the forefront of leading adaptation and response to drought and climate change. Australia is able to grow food and fibre in a dry and variable climate because it has built water storage and irrigation infrastructure. Such infrastructure will continue to play a vital role in underpinning food and fibre production as well as ameliorating some impacts of climate change.

As part of the broader Australian community, the sector is willing to bear its fair share in response to climate change while also responding to the growing global demand for food and fibre. The sector expects to be supported by policies to enable it to play its part in the response to climate change without the risk of perverse outcomes for the sector” (National Irrigators' Council, 2019, p. 1).

The position statement goes on to say (in part):

- Irrigation is fundamental to sustaining food and fibre production, Australia's farmers continue to be at the forefront of leading adaptation and response to drought and climate change.
- NIC recognises the impact of climate change, and acknowledges the need for Australia to meet its obligations on carbon emissions reduction.
- NIC supports policies that address climate change without putting an unfair burden on agriculture by imposing unreasonable and unsustainable costs or regulatory restrictions.
- Adaptation is already occurring across the irrigated agriculture sector through:
 - The implementation of more water efficient irrigation systems, resulting in increases in water efficiency and productivity across many industries over the last decade.
 - A change in crop types with a shift to more drought tolerant or water efficient varieties and a spatial shift in where crops are grown.
 - Industry sectors investing in changes in crop management practices and taking up opportunities offered by climate R&D, identifying suitable crop varieties and water use efficiency measures, supporting innovation and resilience in the agriculture sector while maintaining viable industries and much needed regional employment.
 - The use of solar powered pumps for crop irrigation.
 - Reafforestation as carbon sinks that also support ecosystems.
- NIC supports amelioration projects, including capital works, to retain more water in storage and to more efficiently deliver water to key environmental assets.
- NIC expects equitable distribution of the burden in response to climate change, any sector that is bearing more than its fair share must be compensated.

NIC would support continuing research into impacts of climate change on our river systems and incorporation of scientific evidence in modelling. We do not view that the NWI needs to change to do this. If any change is considered it must encompass the principles outlined above – and critically, that burden must be equitably shared.

It needs to recognise that irrigation infrastructure and potentially new infrastructure may be able to play a part in planning for changing rainfall patterns and facilitating amelioration of climate change impacts. Policy in this area must acknowledge that there will be negative impacts on the environment from climate change; it will be possible to ameliorate some impacts but it is not possible to prevent them on current scientific predictions.

Question 5: Compliance & Monitoring

How could the NWI be amended to support best practice monitoring and compliance across jurisdictions?

The NWI agreement deals with compliance and monitoring in sections 87 to 89. The principles are clear but are in reasonably general terms. Given the very different systems across Australia, this remains appropriate.

It is recognised that the standard for compliance, metering and monitoring is higher in a system like the Murray Darling Basin than it would be in some smaller irrigation areas, such as some coastal rivers, where the irrigation take is generally supplementary and relatively small scale.

The 2017 review noted significant progress on metering and compliance. Since that time there have been further significant reforms in compliance and metering standards across the Murray Darling Basin states particularly.

Consistent with the position we have taken with a range of reviews, NIC would suggest that no further reform is needed until implementation of the current processes is completed.

Irrigators strongly support accurate metering and compliance regimes, and NIC is on the record as having zero tolerance for water theft. The industry has actively engaged with Government in seeking practical standards for rollout of new metering standards.

Many of these points were dealt with in more detail in the Commission's Five-year review of the Murray Darling Basin Plan.

Some of the concerns raised by NIC previously around practicality of some of the standards and timetables remain. In our submissions to the Five-year review we raised concerns about the practicality of the Australian Standard and the fact that it simply could not be met in a range of situations. The Commission agreed with that view and included in the Five-year review, recommendation 12.2 which said:

"Basin States should consider the role, costs and benefits of consistent metering policies including the role of metering standards. Basin Governments should work with Standards Australia to formally revise standards to ensure quality and cost effectiveness in water measurement. The new metering implementation plans being developed by Basin States should be supported by publicly available business cases. (Productivity Commission , 2019, p. 312)"

Irrigators remain concerned that in some jurisdictions targets are not practical and that even with all the best will in the world some cannot be met. Members also have concerns about differences in criteria in different states and the implications that has for practical issues like training enough accredited installers.

Irrigators have no problem with standards which require accurate meters with telemetric capability. Issues remain however, with irrigators being able to access meters for high volume uses that comply. NIC strongly makes the point about the 2019 recommendation to revise the Australian Standard.

We supported this recommendation and urged authorities to consult industry and manufactures to ensure it was practical.

NIC was subsequently informed (quite informally) that Government agencies had reviewed the Standard. As best NIC can tell there was no public consultation and we have not seen anything to detail changes or even consultation with manufacturers. This 'in house' approach involving Government agencies is completely unsatisfactory.

It would be reasonable for this review to:

- Acknowledge the significant progress that is being made in metering and monitoring.
- Acknowledge that the irrigation industry has demonstrated a strong commitment to accurate metering and support for compliance.
- Reinforce the point made in the 2017 review that “arrangements are commensurate with the risks to the integrity of the water entitlements and planning frameworks they seek to address, and that they are subject to scrutiny through standard regulatory and economic review processes” (Productivity Commission, 2017, p. 289).
- Make a strong point that achieving the highest possible standards in metering requires **genuine consultation** and engagement with users and manufactures to ensure standards and targets are practical and effective.

Question 6: Environmental outcomes

Are environmental outcomes specified clearly enough in water plans to guide management actions, monitoring and accountability?

Are institutional and administrative settings effective in supporting these outcomes? Do environmental water managers have the necessary authority, resources and tools to achieve agreed outcomes?

Is environmental water management (including planning for use of held water, delivery of held water, use of markets and compliance with planned environmental water) sufficiently integrated with complementary natural resource planning and management frameworks?

Can environmental outcomes be more cost-effectively achieved with greater and more innovative use of water markets and market-like mechanisms?

Is the monitoring and assessment of environmental outcomes sufficient?

How effective has adaptive management and planning decision-making been during the recent drought?

Do environmental water managers maximise opportunities to achieve social or cultural outcomes alongside environmental watering? How could this be improved?

The 2017 review made some well-considered and positive recommendations around management of environmental water, the need for ground up input and institutional arrangements. Section 5.3 of the report had some detail around this building on the comment that “in the Commission’s view, the problem is that the legislative, institutional and policy frameworks in most states and territories do not facilitate the integrated management of environmental water and waterways” (Productivity Commission, 2017, p. 151).

That report made recommendations which NIC strongly supported. These included recommendations 5.2 to 5.5 on environmental water planning and management. Those recommendations emphasised

the need for planning to be devolved as far as possible to a ground up model. The recommendations reflected the need for better management models, putting forward Victorian CMAs as a positive example, and the need to plan as far as possible for environmental water to have broader benefit.

This and other reviews have made recommendations about improving the effectiveness of the use of environmental water and better demonstrating the benefits to build community support.

NIC would acknowledge that we are seeing a gradual improvement in the effectiveness of use of environmental water to achieve positive outcomes. This is coming from managers gaining greater experience about interaction with other factors, better knowledge on timing etc.

Disappointingly though, the recommendations around environmental water made in the 2017 report and in the Five-year review of the Basin Plan (most of which were strongly supported) have **seen little or no obvious action**.

Similarly section 5.5 in the 2017 report dealing with improving monitoring, evaluation, reporting and adaptive management (Productivity Commission, 2017, p. 168), leading to recommendation 5.6. This is a section which deals extensively with a point NIC has highlighted in submissions to almost every review – and again in this one – and that is, the need to focus on environmental outcomes not just flow measurement.

Again, these recommendations simply have not been implemented.

NIC acknowledges and appreciates that in the 2017 report and in the Basin Plan Five year review, the Commission has endorsed the importance of complementary natural resource planning and management frameworks, and NIC continues to emphasise the importance of integration and management of environmental water and waterways.

We have long advocated a genuine focus on the development of complementary, or non-flow, measures to ensure the best environmental outcomes are achieved. The Commission also recognises that providing water *in itself is not necessarily enough to secure environmental outcomes. Environmental water provisions can help achieve flow regimes and extraction rates that better reflect ecological need.*

The reference to a 'flow' must be seen as an input and not an outcome, where 'flow targets' cannot be described as deriving environmental outcomes.

Complementary measures can include projects designed to improve the river environment by enhancing conditions for native fish, improving riparian zones and tackling weeds and feral animals. In the context of the Basin Plan implementation, and as part of the response to the Northern Basin Review, a suite of Toolkit measures have been put forward by the NSW and Queensland Governments and are currently under consideration by the Australian Government. Some of these measures include environmental works and measures to promote fish movement and habitat including fish way construction and cold water pollution.

There has been a significant lead time on getting these measures underway but NIC would hope that in time they might provide an example of the on the ground impact of such measures.

As the Commission would be aware from our previous submissions, NIC also recommends a suite of complementary measures more broadly which might include:

- Projects to improve fish migration which might involve small local projects including removal of obsolete infrastructure; installation of fish ways and improvements to weirs;
- Appropriate management of cold water pollution (larger scale capital works projects)
- Restoration of native fish habitat with river improvements (including things like re-snagging) and enhancement and development of native fish hatcheries;
- Feral animal control in wetlands along the system including Narran Lakes, Gwydir Wetlands and Macquarie Marshes (with feral pigs a high priority);
- Riparian land management, and
- Weed eradication; projects which might involve local community and for example, Landcare groups.

How effective has adaptive management and planning decision-making been during the recent drought? As in our response to Question 1, NIC suggests that to date there has been a lack of visibility and/or reference around the principle of 'adaptive management'. This covers a range of issues around the provisions of third party impacts and the need for 'mutual agreement' for changes which impact access (and therefore reliability) and the need to consider broader socio economic impacts to either avoid impacts, or address 'adjustment' issues.

NIC continues to strongly support the principle of 'adaptive management' and we recommend that this inquiry reinforce its importance by way of a recommendation that there must be a strong commitment to 'adaptive management' and that it be embedded as part of genuine water reform.

As the comment above suggests, NIC is extremely frustrated with the failure to implement sensible recommendations from previous inquiries around environmental water and catchment management; measurement and monitoring of outcomes, adaptive management and the very slow progress on acknowledging that complementary measures are critical for the health of the river system.

This review does not need to make new recommendations in this area. It does though need to reiterate and reinforce the importance of the recommendations made in the 2017 review and the Murray Darling Basin Plan Five-year review. We **strongly recommend a finding** that reflects a lack of progress on this front and one which highlights the frustration felt by many.

Question 7: Indigenous water

What progress are states and territories making on including Indigenous cultural values in water plans, and how are they reporting progress?

How could a refreshed NWI help Indigenous Australians realise their aspirations for access to water, including cultural and economic use?

NIC has long supported the legitimate aspiration of First Nations people in water issues and we see a need for better and more effective engagement in planning and decision making along with engagement through ownership of water for cultural and economic purposes.

NIC believes First Nations involvement in productive irrigated agriculture can play an important part in improving economic and social outcomes for many communities, in skills and training and jobs in communities.

While we recognise that the cultural water needs of Indigenous Australians is a key feature of the NWI, the provision of water for economic development has not been specifically addressed by the NWI. However, since the final report of the Commission in 2018, there has been a greater focus on

water for Indigenous economic development. We also note the Commission's 2018 finding that where state and territory governments provide access to water for Indigenous economic development, they source water within existing water entitlement frameworks, such as by purchasing water on the market or as part of transparent processes for releasing unallocated water.

NIC welcomed the allocation of funding by the Federal Government for the acquisition of water in the Murray Darling Basin.

NIC recognises that First Nations need to determine for themselves what the most appropriate structure is to own and manage water to ensure it provides maximum cultural and economic benefit to those First Nations communities. While we would not seek to suggest what that structure might be, we would like to see progress toward an agreed structure in the near future.

Question 12: Infrastructure investment

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

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

See comment at question 2.

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