

NSW Department of Primary Industries submission to the Inquiry into water use efficiency in Australian agriculture

March 2017

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Introduction

NSW has achieved significant gains in water use efficiency in the agricultural sector through investment in research and development (R&D) and incentive programs encouraging on-farm water productivity and sustainability, education and adoption of new technologies. A significant driver for NSW agricultural water productivity and sustainability R&D programs, and adoption of the resultant technologies has been the significant recovery of water from production, particularly through water buybacks by the Commonwealth in order to meet the Sustainable Diversion Limits (SDL) set by the Basin Plan 2012 (Cmth) over the past 10 years.

The majority of current R&D programs and associated on farm water efficiency improvements have proven to be beneficial. Examples of this are attached to this submission as case studies. Benefits associated with incentive programs include individual farm productivity improvements as a result of at least some of the water savings being retained on the farm, as well as environmental benefits from water recovery.

However, information yielded through a number of recent studies commissioned by Basin States, the Commonwealth Government, and the Murray-Darling Basin Authority (MDBA) demonstrate that the removal of water from production through non-strategic buybacks to date have had a detrimental socio-economic impact on Basin communities.

While it is important to continue to encourage and support the adoption of water use efficiency practices once water has been extracted, the available information suggests that any further investment in non-strategic water recovery will cumulate these negative socio-economic impacts. A recent report commissioned by the NSW Government examined the socio-economic neutral provisions required for further water recovery under water efficiency programs. This report indicated that there is the potential for resultant impacts on Murray-Darling Basin (MDB) communities should these programs continue without appropriate measures in place to avoid social and economic impacts.

NSW would like to see a more innovative approach adopted to achieve the environmental outcomes sought, under the Basin Plan in particular, which does not rely on further water being removed from production. This could be achieved through investment in environmental works and measures based projects such as the Sustainable Diversion Limit Adjustment Mechanism proposals, and complementary measures, such as cold water pollution management and natural resource management activities.

In addition, shifting the focus of water efficiency programs from water recovery to growing the agricultural economy through R&D would be beneficial. This would develop technologies providing water productivity and sustainability outcomes, and would provide potential agricultural productivity gains.

Background

Water recovery to date

NSW has led the way in Murray-Darling Basin reform through actions that range from institutional, legislative and policy reforms to environmental water recovery, works and measures. These actions occurred ahead of the establishment of the *Water Act 2007* (Cth) and the Murray-Darling Basin Plan 2012.

Over the 25 years prior to the commencement of the Murray-Darling Basin Plan, NSW water users returned significant volumes of water to the environment, including:

- 860 000 megalitres per year of surface water returned to the environment through Water Sharing Plans, Riverbank and The Living Murray and Snowy Initiatives,
- a 942 000 megalitre reduction in groundwater entitlements in 6 major alluvial aquifers, and
- 67 000 megalitres recovered in the Great Artesian Basin.

Following NSW signing the Intergovernmental Agreement on Murray- Darling Basin Reforms, the Commonwealth has recovered significant volumes of water in NSW. Approximately 965 gigalitres (GL) of NSW target recovery of 1310 GL has been recovered to date.

Under Sustaining the Basin projects, approximately \$206 million has been invested across the Nimmie-Caira System Enhanced Environmental Water Delivery Project, the Basin Pipe project, the Irrigated Farm Modernisation project and NSW metering activities. This has resulted in 219 GL of water being returned to the environment annually to bridge the gap to SDLs under the Basin Plan.

Current water use efficiency programs

Agriculture is NSW's single largest consumer of water with annual usage between 45 and 70 percent of the State's water resource. The gross value of NSW agricultural production is \$12.1 billion with 25 percent of this production coming from irrigated agriculture sectors (ABS 2014-15).

It has been estimated that increasing the water productivity of NSW rain-fed and irrigated agriculture by 2% by 2020 could contribute up to \$226 million annually to the NSW economy. The majority of this increase would be due to productivity gains resulting from improvements in water use efficiency and adoption of best management practices.

Within NSW, R&D around improving agricultural water productivity and the sustainable use of, and access to, water in agriculture is undertaken by the Department of Primary Industries' Agriculture Division (DPI Agriculture). This R&D program is supported by co-investment from Research and Development Corporations (RDCs), which obtain funding from grower levies and matching federal investment. Water productivity and sustainability programs within RDC investment strategies (where they exist) are strongly aligned with the National Water Use in Agriculture Research Development and Extension Strategy. DPI Agriculture's R&D program is also supported by other Commonwealth R&D funding programs such as Rural R&D For Profit. This program has one more round of funding available and there has been no announcement to date of a continuation.

The case studies at Attachment A demonstrate the value of current R&D programs and the benefits that can be achieved by adopting water use efficiency research results.

The Commonwealth Government has also provided funding of \$111 million for the Sustaining the Basin Irrigated Farm Modernisation (STBIFM) program. STBIFM aligns with the federal government's commitment to the Murray-Darling Basin Plan (Basin Plan) by providing incentives for irrigation modernisation that achieves water use efficiencies in the northern NSW Murray Darling Basin (MDB). Water recovered as a result of infrastructure modernisation is shared between the irrigator and the environment, providing farm scale productivity and profitability outcomes in addition to environmental outcomes sought by the Basin Plan.

Positive local and regional social and economic outcomes have been achieved through investment by STBIFM proponents in irrigation related industries via the use of irrigation planning and design consultants and service providers and the purchase, installation and maintenance of modernised infrastructure.

The program also provides planning support by funding irrigation farm water use efficiency assessments (IFWUEA). IFWUEAs identify irrigation system losses within the farming system and STBIFM only funds infrastructure modernisation that addresses these losses. STBIFM also provides training and development opportunities to ensure farmers optimise the use of new infrastructure and make educated on-farm investment decisions in irrigation modernisation.

An analysis of STBIFM's expected benefits has indicated that:

- capacity building activities will result in a \$6.3 million per annum increase to productivity across the irrigation industry across the northern valleys,
- an increase in productivity on modernised irrigation area by \$24.7 million (15 percent per annum) as result of improved water use efficiency, and
- an increase in production of \$11.9 million per annum as a result of water savings retained by the participants.

More than 238 GL of water losses have been identified through on farm assessments undertaken within the STBIFM program. This is water traditionally lost through system inefficiencies and therefore currently not contributing to production. STBIFM on-farm infrastructure projects have resulted in 32 GL of water savings. Of losses saved, 22 GL (69 percent) has been returned to the environment and 10 GL retained on farm for additional productive use.

As a result of improved irrigation infrastructure, irrigators consistently report improved water use efficiency and increased productivity. Irrigators involved in STBIFM commonly report additional benefits such as:

- greater control over water application,
- greater choice in crop selection,
- improved water security,
- improved management of rainfall events,
- greater flexibility and ease of irrigation management,
- reduced labour costs, and
- The case studies at Attachment A demonstrate further on-farm benefits of irrigation modernisation.

How existing expenditure provides value for money for the Commonwealth

R&D for irrigation water use efficiency and productivity

NSW DPI Agriculture R&D programs operate under a co-investment model. Every dollar invested by the Commonwealth government is matched by the NSW government through in-kind contribution of DPI Agriculture staff time and expertise. In some cases, NSW also contributes funding to R&D programs.

Additionally, the NSW government invests in R&D through the provision, up keep and maintenance of 10 dedicated R&D facilities occupied by DPI Agriculture R&D staff. These facilities provide laboratories and field trial sites and associated infrastructure and capital equipment to support ongoing R&D activities.

NSW DPI has commenced a program of works designed to enable attribution of the outcomes of agricultural R&D projects to improved gross value agricultural production (GVAP). The results of this economic analysis will further articulate the benefits to the Commonwealth of investing in agricultural R&D.

Sustaining the Basin Irrigated Farm Modernisation

Through the STBIFM program, over \$89.8 million has been invested in improving water use efficiency through improved irrigation infrastructure in the northern NSW MDB area. DPI has invested \$69.9 million of this and individual irrigators have invested approximately \$20 million in cash or in-kind contributions.

The value of the water entitlements returned to the environment to date is approximately \$41 million, plus the unquantified triple bottom line benefits associated with improved environmental health.

Additionally, the increase in production resulting from water savings kept on-farm (10 GL to date), and improved productivity resulting from modernised irrigation infrastructure and capacity building is estimated to add more than \$40 million per annum to the gross value of agricultural production.

Socio-economic impacts of water recovery and efficiency programs

While there have been demonstrated benefits of investment to date via water use efficiency programs as described above, there are emerging concerns about the continued recovery of water from the productive pool of water entitlements, whereby the individual benefits and gains achieved from water recovery, particularly through the water use efficiency incentive programs, is beginning to have a resultant flow on impact throughout the irrigation industry and MDB communities.

The Commonwealth buyback to meet the SDLs set by the Basin Plan has been a major impetus in the participation of water efficiency programs from across the MDB region. While this has resulted in gains to individuals, the socio-economic impact that this has created is becoming clearer.

Numerous socioeconomic studies have been conducted at the Basin and regional scale over the past five years in particular, and some of these studies find the impacts of the Basin Plan have the potential to be limited at the whole-of-Basin level. However, there is an emerging understanding of the variations at the sub-regional level and the particular impacts that water recovery, regardless of the method, can have on communities. The recent MDBA Northern Basin Review analysed the impacts at the level below the regional areas highlighting, for example, that smaller towns and communities have experienced significant population decline due to loss of employment opportunities.

A number of recent studies have sought to better understand the impacts at this scale. Key findings of some of those relevant studies are summarised below.

A review of socio-economic neutrality in the context of Murray-Darling Basin Plan implementation

The NSW Department of Primary Industries Water (DPI Water) recently engaged Aither to assess the definition of socio-economic neutrality of further water efficiency projects, as defined by the Basin Plan. This definition needed to be understood in the context of the 450 GL of 'upwater' that is to be recovered by means that satisfy the definition of neutrality.

Aither concluded the Basin Plan definition of socio-economic neutrality falls short of being both practical and workable for the purpose of implementing associated 'upwater' programs when considered against accepted definitions of socio-economic impact. Particularly it overlooks:

- the impacts on people who are not directly participating in the program,
- impacts that are a result of the cumulative implementation of entire programs, not due to one additional participant, and
- the distribution of impacts across stakeholders.

The report determined that there is evidence to suggest that on-farm efficiency measures projects could have material socio-economic impacts on individuals not participating in the programs, and that the impacts are a likely result of cumulative changes in irrigation water demand and water use, and the flow-on effects on irrigators and Irrigation Infrastructure Operators (IIOs) as a result of these changes.

Aither highlights that the concern surrounding the effects of on-farm water use efficiency programs is particularly in relation to the uncertainty for:

cumulative or aggregate effects on the price of water allocations in connected markets across the Murray-Darling Basin and their impacts on the financial viability of irrigation infrastructure operators. These effects relate to the changed demand from individual participants as well as the overall reduction in water available for use within irrigation districts associated with the recovery of an additional 450 GL for the environment, which would not be used in irrigation delivery systems.

To ensure the full range of costs and benefits, individual program participation, broader impacts on irrigators and IIOs, cumulative and distributional impacts across communities, and the potential for targeted compensation to offset negative outcomes without eliminating the efficiency benefits of the program as a whole, Aither has recommended a revised definition. The recommendation requires Cost Benefit Analysis of efficiency programs, along with the use of generally accepted assessment methods of the economic merits of the policy, based on a consideration of the 'net benefit' likely to be delivered. This would enable analysts to consider if IIOs, irrigation industries, regional groups of irrigators (market participants) or local communities are materially adversely affected. The full Aither report is provided as Attachment B.

Northern Basin Review – Technical overview of the social and economic analysis

The water recovery scenarios that informed the Basin Plan estimated social and economic effects at a regional level in the northern Basin. This analysis did not recognise the potential for variability in impacts across individual communities and that these impacts may be influenced by the:

- volume, timing and method of water recovery,
- underlying social and economic conditions and trends in each community at the time of water recovery,
- relative importance of irrigated agriculture and mix of non-irrigation agricultural enterprises associated with each community, or
- other factors such as growth in particular sectors (for example, mining or government services) of the local economies.

The socio-economic analysis completed as part of the Northern Basin Review (NBR) sought to address this by investigating the effects of water recovery at a community scale. This allowed the analysis to account for the specific social characteristics and structure of each community. The socio-economic analysis completed as part of the NBR examined the effect of reduced water availability on the area of irrigation and, consequently, employment at the community level in 21 communities in the northern Basin. The approach to assess economic outcomes of reduced water availability would commonly focus on changes in the volume and value of production, profits, and the wages paid to workers across the sectors in each community. This study sought to maximise the use of information to gain a fuller understanding of the effects of water recovery. By building a more complete picture of the economic structure of a community, and understanding how it links to and influences the social structure and condition of a community, the economic resilience and response to shock can be examined.

The NBR study looked at the impacts of water recovery in the context of the prevailing social and economic conditions in 21 communities. The NBR analysis indicated that the effect of water recovery is increasingly evident as the area of irrigation declines by more than 15 percent. Under current water recovery, the communities most impacted are Bourke, Collarenebri, Dirranbandi,

Narromine, Trangie, Warren, St George, Moree and Wee Waa, with Collarenebri and Warren in NSW seeing the greatest decrease in the maximum area of irrigation. In these two areas alone it is estimated that as much as 24,000 ha has been removed from the maximum area available for irrigated production.

Bourke, St. George (Queensland), Moree and Trangie have all experienced similar declines in irrigated areas, upwards of around 10 percent. The reduction in irrigated hectares due to water recovery has a subsequent effect on employment, the magnitude being dependent on the diversity of each community's agriculture sector and the relative importance of irrigated agriculture. Collarenebri and Warren have experienced the biggest decrease (proportionally) in farm and farm-related sector employment.

Possible improvements to programs, their administration and delivery

Significant R&D has occurred over the last 10 years and this has resulted in some identifiable benefits, particularly at the individual farm level. However there is a need to better understand the cumulative impacts, and broader community impacts, of water efficiency programs that are focused on water recovery. The full socio-economic impacts of such programs need to be better explored, and measures put in place to mitigate these impacts should there be a desire for them to continue.

STBIFM has demonstrated clear benefits to infrastructure modernisation programs achieved through its IFWUEA and training and capacity building programs. It is strongly recommended that future investment in this arena includes these aspects to ensure that investment addresses the recovery of water losses and from irrigation systems and that participants are enabled to make sound on-farm investment decisions and that they optimise the benefits of infrastructure modernisation.

There is the potential for agricultural productivity gains to be made by continuing federal investment into water efficiency programs that focus on improving agricultural productivity, including:

- R&D that increases the gross value of irrigation agricultural product, including by ensuring Research and Development Corporation investment strategies focus on these issues and align with the national Water Use in Agricultural Research Development and Extension Strategy;
- irrigation infrastructure incentive programs that target improved water use efficiencies identified through sound farm level planning processes that identify irrigation system losses; and
- training, development and capacity building programs to ensure participants make sound on-farm investment decisions and optimise the investment in new infrastructure.

Conclusion

A key objective of the Basin Plan, under the Commonwealth Water Act 2007, is to provide for the use and management of Basin water resources to optimise environmental, social and economic outcomes. The implementation of the Basin Plan should therefore balance the needs of the environment, communities and the economy.

While there are many individuals who have benefited from participation in efficiency programs, cumulative impacts are becoming apparent as a result of extensive reform that has occurred over the past decade. Recent studies are helping us to better understand the ripple effect of the reforms at a community scale.

A number of communities within the NSW Basin, particularly those with smaller populations and economies that are dependent on irrigated agriculture, have and will continue to be exposed to adverse impacts as the effects of a reduced volume of water available for production cause changes to industry, employment and local demographics.

As such, NSW highlights the growing importance for water recovery – in any form – to require thorough assessment of the potential cumulative impacts to ensure that social and economic impacts are avoided or mitigated.

Commonwealth funded water efficiency programs could instead focus on improving agricultural productivity through R&D, farm level planning and assessment programs that can identify and target irrigation system losses, and training, development and capacity building programs.

Attachments

Attachment	Title
A	Case studies
B	A review of socio-economic neutrality in the context of Murray-Darling Basin Plan implementation (Aither, 2017)

Attachment A: Case studies

Water Use Efficiency programs – NSW case studies

Irrigated cotton in NSW

Research has been recently conducted by DPI and partner organisations, such as Cotton Research and Development Corporation and Cotton Catchment Communities Cooperative Research Centre (CRC), to identify industry level improvements in cotton water use efficiency and crop productivity. This research clearly shows that at the field scale, irrigation water use efficiency has increased to beyond 2 bales per ML (see Figure 1). This is validated by industry reports that the on-farm Irrigation Water Use Efficiency for Australian irrigated cotton almost doubled in the ten years between 2000-01 (1.1 bales/ML) and 2009-10 (1.9 bales/ML) (Cotton Australia, 2016).

Our research identified that improvements in IWUE at the field-scale are due to R&D that has driven improvements in multiple factors. These include:

- varietal improvements
- improvements in agronomic knowledge and practice
- improved irrigation system design and optimisation
- irrigation technological advances
- improved knowledge of crop water requirements

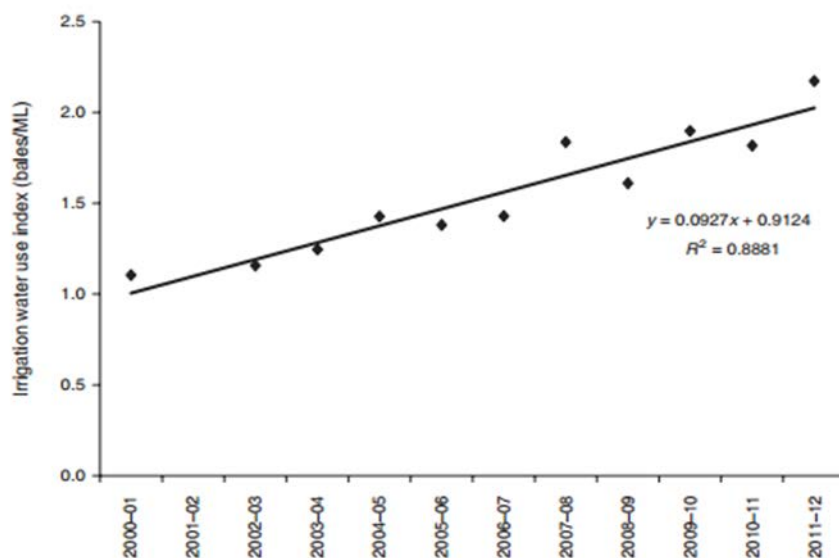


Fig. 3. Irrigation water-use index for cotton productivity 2001–12 (1 bale = 227 kg).

Figure 1: Reproduction of Figure 3 from Roth et al. (2013)

Roth, G., Harris, G., Gillies, M., Montgomery, J., and Wiggington, D. (2013) Water-use efficiency and productivity in Australian irrigated cotton: a review, *Crop & Pasture Science*, 64, 1033-1048

NSW rice industry

The largest agricultural water user in NSW is the rice industry. Water productivity in the NSW rice industry is calculated at 0.75 tonnes per ML (2013-14 data). Water use efficiency and water productivity are acknowledged by the rice industry as the highest priorities for improvement and will provide resilience to drought, climate variability and increased competition from other irrigated crops.

A recently completed Water and Irrigation Unit research project (undertaken in partnership with the Ricegrowers Association and the Australian Centre for International Agricultural research [ACIAR]) has shown:

- Direct drilling and delayed permanent water (DPW) can deliver water savings and increase gross margins by up to 59%
- Drill sowing can shorten ponding from 140 to 105 days, and if undertaken with DPW, ponding can be reduced to 75 days further reducing evaporation and water loss
- Growers who use drill sowing instead of aerial sowing or dry seeding (traditional methods of sowing) can save 2.0ML per hectare
- Growers who use DPW in conjunction with drill sowing can save 4.5ML per hectare

Water savings achieved by drill sowing and DPW can be used to grow more rice and increase gross margins.

Sustaining the Basin Irrigated Farm Modernisation Program

Converting from low to high value crops

After receiving funding for the construction of a 730 ML storage, a new pump station and a swing-around lateral move irrigation system, Jim Wall from Wee Waa was able to recover 263ML of water losses (73% was returned to the Commonwealth) and was able to change from low to high value crops.

When asked about the benefits of modernisation, Mr Wall stated that the new system “allows us to make the most of opportunity crops like mung beans which require only a couple of irrigations in a normal summer season”

“The returns from mung beans can be quite high because, with irrigation, they can yield up to 2

tonnes per hectare.” He added that he did not to think of participating in STBIFM as giving up water, instead “it’s about increasing the bottom line through efficiencies”.

For more about Jim Wall’s experience, see below.

Converting from furrow to lateral move irrigation

Andrew Watson of Boggabri saw a 17% increase in cotton yield with a water savings of 12% after changing from furrow to lateral move irrigation. He also saw increases in wheat yield from 1.5 t/ML on furrow to 2.08 t/ML under the lateral. Mr Watson has since installed a further two lateral moves which have resulted in 240ML of water savings (98.4 ML kept-on farm).

When asked what he thought of the STBIFM program Mr Watson said “It’s a good way to make the high risk, high capital cost changes we require to remain viable as irrigators in this changing environment”

Converting from furrow to sub-surface drip irrigation

Stuart Crawford, a cotton and grain farmer from Narromine, received funding in 2013 to increase storage capacity and improve water use efficiency. This was achieved by extending a water supply channel from a new water storage to fields, installing 135 Ha of sub-surface drip irrigation and by upgrading a diesel pump, new sand filters, control and fertigation systems.

Mr Crawford reports the benefits of installing sub-surface drip irrigation systems have been:

- Water savings of up to 50% on sandy loam soils
- Significant increases in yield
- Increased flexibility for growing higher value crops
- Labour savings
- Improved soil condition
- Management flexibility

Mr Crawford said government incentives for irrigation modernisation are essential for achieving improved efficiency “The numbers just don’t stack up as far as financing it all yourself, given that we’re not really getting any more for our produce than we were when we put it in 15 years ago.”

Improved efficiency converting to bankless and lateral move

Bill and Lucy Ferguson grow 520 ha of cotton on their recently modernised farms at Trangie. The couple received funding to install bankless irrigation and lateral move systems and upgrade a storage facility. As a result of improvements, Mr and Mrs Ferguson report improved efficiency mainly due to more efficient water application, reduced water logging, reduced run off and reduced evaporation losses.

For example, through modernisation, Mr and Mrs Ferguson have reduced the time it takes to irrigate a field of 142 ha from 5 days nonstop watering with siphons to two days through their bankless irrigation system. This has reduced waterlogging and run off.

An important feature of the modernisation carried out by the Ferguson’s has been the use of local suppliers and equipment. The land levelling was done by contractors from Narromine, fuel was supplied by locals, survey by an irrigation designer from Trangie and the lateral move irrigation system was supplied from Dubbo. Mr Ferguson points out that this has kept the local community busy and engaged, which has been important after the “dry spell”.

The benefits of training, development and capacity building

A key component of the STBIFM program is its focus on training and development. The program is dedicated to delivering training and development opportunities with the aim of strengthening the capacity of irrigators in northern NSW MDB area to increase their water use efficiency and operate and maintain on-farm irrigation systems efficiently.

To date the program has delivered or supported 85 capacity building events involving 883 participants. Events are tailored to the needs of irrigators and include formal training sessions, site visits, bus tours, workshops and community meetings.

For example a Training Needs Analysis conducted in November 2016, identified a knowledge gap in energy efficiency. This led to the delivery of two workshops (February

2017) focussed on optimising pump and irrigation efficiencies, these attracted 33 participants.

Where there is a benefit for irrigators in the program area, STBIFM supports the delivery of training through partner agencies by providing subsidies. For example the program provided a 75% subsidy (approximately \$10,500) for 13 suppliers, installers and consultants to attend IALs Metering Certification training in September 2015. This investment acknowledged the paucity of certified meter installers in the northern Basin.

Feedback collected revealed that the training was successful in achieving its objectives of increased knowledge and skills in the assessment, installation and validation of meters. This has resulted in an additional 13 qualified meter installers in the program area to support irrigators looking to upgrade their irrigation systems.

The benefits of the Irrigation Farm Water Use Efficiency Assessment (IFWUEA) program

IFWUEA is a rigorous assessment of whole farm irrigation system performance and management. It identifies the scope for improvement in irrigation performance and assesses the potential water savings that will result from modernising on-farm infrastructure.

The information generated from an IFWUEA allows irrigators to identify cost effective options for modernisation projects and to target improvements for greatest return.

Since the commencement of the program, STBIFM has invested nearly \$440,000 in supporting irrigators to complete 142 IFWUEAs. Feedback from irrigators clearly demonstrates the value of completing an IFWUEA before investing in costly infrastructure upgrades.

“The IFWUEA picked up some inefficiencies in my present system. It showed our distribution uniformity was 20% below what it should have been, so we were able to rectify that straight away”. Pieter Mayne, Bonshaw

“If you need to justify your decisions to the government or bank then this is a valuable process.”

Wally Taylor, Goondiwindi

“The IFWUEA highlighted some areas where we can make some improvements and also helped with determining the costs and the most efficient way to go.” Peter Winter, Moree

NSW SUSTAINING THE BASIN *Irrigated farm modernisation*

Jim Wall, Wee Waa

April 2014

Location: 'Athelstone', 8 km east of Wee Waa near the Namoi River

Water sources: Namoi regulated general security entitlement

Soil type: Alluvial soils ranging to lighter red loams

Enterprise: Cotton, grains and cattle

Existing irrigation system: Furrow irrigation

Total area irrigated: 500 ha

Total savings: 263 ML with 73% to be returned to the environment.

The Wall family came to 'Athelstone' near Wee Waa in 1878.

Jim Wall is the fifth generation and says that his family are here for the long term.

The Walls are 'generational' farmers that are focussed on increasing their business returns rather than just the land value.

Jim's father, Philip Wall, was a grazier in his earlier life but started growing cotton in 1964.

Description of the project

The Walls have been successful in both rounds of STBIFM.

The Round 1 project included:

- The construction of a new 730 ML above-ground storage
- The installation of a new pump station
- Earthworks and pipe installation

This storage allows the Walls to utilise a high flow licence and capture overland flow and tail water returns.

The Round 2 project complemented their first round project and included:

- A swing around lateral move irrigation system covering 180 ha.

"We have identified significant savings with the infrastructure change but the real value for us is the improvement in our water security."



Jim Wall with his new lateral move irrigator funded in Round two of STBIFM. Image: S. Bray

The benefits of the project

Jim Wall said the big advantage of the new system is that it can match water applications to crop needs and minimise deep drainage and other losses.

"This allows us to make the most of opportunity crops like mung beans which require only a couple of irrigations in a normal summer season.

"The returns from mung beans can be quite high because, with irrigation, they can yield up to 2 tonnes per hectare," Mr Wall said.

Landholders experience

Mr Wall said his involvement in the STBIFM had been a good experience.

"The roll out of the project has been very well organised and overall it's been quite straight forward

"I totally agree with the competitive tender process.

"If I was doing on-farm works I would also be trying to get value for money.

"I deliberated a long time on the information provided by DPI and the value of my water and just focussed on what provided value to my irrigation business," Mr Wall said.

What aspect was most challenging?

As with a number of successful projects from Round 1, wet weather delayed the earth works early on in the development of the on-farm storage.

However, despite this set back, when the season changed, the project was completed on time and within budget.

The Round 2 project is also progressing well and is tracking on-time.

What advice would you give others?

Mr Wall said he'd advise other irrigators not to think of participating in the STBIFM as giving up water.

"It's about increasing the bottom line through efficiencies.



Jim Wall at his new pump site. Image: S. Bray

"My on-farm water use efficiency assessment and Irrigation Consultant were also a really big help in making good decisions.

"They helped me to really be able to value the water and know how to develop a competitive bid," Mr Wall said.

What are your thoughts on STBIFM?

Jim Wall said that the STBIFM funding provided a valuable opportunity for their irrigation enterprise.

"We have identified significant savings with the change but the real value for us is the improvement in our water security.

"This is a way of achieving long term goals in a shorter time frame," Mr Wall said.

This project is funded by the Australian Government's 'Sustainable Rural Water Use and Infrastructure' Program.

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