

**Submission
No 66**

INQUIRY INTO FLOODPLAIN HARVESTING

Organisation: The Australia Institute

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Pulling the cotton over your eyes

Submission to NSW Legislative Council inquiry into floodplain harvesting

The current level floodplain harvesting is inconsistent with legislation. Reducing the practice to lawful levels could be done with minimal economic impact due to the export-oriented and capital-intensive nature of cotton production. Even in cotton producing regions, cotton accounts for less than 5% of jobs. Despite a reputation for high profits, major cotton producers rarely pay tax according to Australian Tax Office data.

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Summary

Despite floodplain harvesting having been perceived as an ‘issue of basin wide concern’ since 1995, the practice continues unlicensed, unmonitored and unmeasured. Volumes extracted have grown to levels that are widely understood to be unlawful. This extraction has significant impacts on downstream environments and communities.

Reducing volumes extracted to levels that do comply with relevant laws could be achieved with minimal economic impact on the wider community. Of course, businesses that have structured their operations around the practice would see profits reduced. These are profit-seeking businesses engaged in an unlawful practice. In our view, what is more important is the potential impacts on employment, the wider economy of affected communities and public revenue.

The vast bulk of floodplain harvesting water is directed to cotton production. The cotton industry is capital intensive and employs few people. Of the Murray Darling Basin’s 2.6 million residents, at the 2016 census just 1,007 of them put cotton growing as their main occupation.

Furthermore, the cotton industry’s outputs are exported with minimal processing and few of its inputs are produced locally. It has substantial foreign ownership and pays little tax. For these reasons local economies are unlikely to feel significant shocks from large reductions in floodplain harvesting volumes.

Even in cotton producing local government areas (LGAs) such as Narrabri, Goondiwindi and Balonne, cotton and cotton ginning are small employers, making up just 4.8% of jobs in Narrabri, 2.7% in Goondiwindi and 6.3% in Balonne. In other words, even in LGAs known for cotton growing and ginning, 95% of jobs are in other industries.

Key industries in the cotton supply chain are also not based in Basin communities. Even taking into account all employment in all supply chain industries, not all of which is related to cotton, cotton remains a minor factor in overall employment in cotton growing LGAs. Cotton growing, ginning and supply chain industry employment amounts to less than 8% of jobs in Narrabri, 6% in Goondiwindi and 9% in Balonne.

More water flowing down the Darling/Baaka would make a contribution to South Australia’s entitlement, freeing up water in the southern Basin that could be used for irrigation there. The supply chains of irrigation in the southern Basin are different to those in the cotton-dominated north. Far more processing of agricultural output is

conducted in the south, on a range of food, fibre and wine products. While the north has a slightly larger share of employment in agriculture, the south has a food processing and manufacturing sector nearly twice as large. Reducing floodplain harvesting could increase overall employment across the Basin.

Major cotton producers make a minimal contribution to government revenue. According to the Australian Tax Office, the three major cotton producers for which data is available enjoyed turnover of \$5 billion between 2013-14 and 2018-19, reported taxable income of \$42 million and paid just \$12.5 million in corporate tax. It is clear that reducing floodplain harvesting is unlikely to have a significant impact on tax take and funds available for Basin communities.

We support the licensing of floodplain harvesting provided the level of take is brought under Cap and the SDL is not expanded to cover historical take. The licensing of floodplain harvesting must address illegal floodplain works. We also acknowledge the current modelling is not fit for purpose. To ensure river connectivity and end of system flows, flow targets must be introduced downstream that are based on environmental, cultural and basin landholder needs.

Introduction

The Australia Institute welcomes the opportunity to make a submission to the NSW Legislative Council's inquiry into floodplain harvesting.

The vast majority of floodplain harvesting within the Murray-Darling Basin occurs within the Northern Basin. This is due to the variable river flows, the area of floodplains and the unregulated nature of the region's rivers. The current level of extraction from floodplain harvesting has significant environmental, social, cultural, and economic impacts on downstream communities. Floodplain harvesting reduces the size and frequency of floods flowing downstream which impacts storages such as the Menindee Lakes but also floodplains along the watercourse.¹ Overbank flows are critically important for the health of the area as well as fish and other wildlife that rely on the nutrients that enter the river as a result.²

Extended periods of time without overbank flows result in a build-up of organic matter and can lead to hypoxic conditions more commonly referred to as black water events occurring during the next flood event. Black water events reduce oxygen levels within the water which can be catastrophic for both flora and fauna. The importance of flooding areas is more than 'skin deep', these areas often have complex groundwater systems connected to the river that are also affected by lack of flows from the upper catchment.³ Townships such as Wilcannia along the Darling/Baaka have been heavily impacted due to the increased extraction resulting in decreased flow downstream.⁴

Floodplain harvesting affects other landholders and irrigators. For example, Southern Riverina Irrigators Chief Executive Officer Sophie Baldwin says:

Southern basin staple food production, community and our environment have all been decimated by the illegal process of floodplain harvesting as unlicensed and unmetered irrigators have taken so much water from the top of the system,

¹ Chen, Y., Colloff, M. J., Lukasiewicz, A., & Pittock, J. (2020). A trickle, not a flood: environmental watering in the Murray–Darling Basin, Australia. *Marine and Freshwater Research*.

² Murray Darling Basin Authority (2021) Flooding in the Murray Darling Basin. <https://www.mdba.gov.au/issues-facing-basin/flooding-murray-darling-basin>

³ Murray Darling Basin Authority (2020) Rivers, wetlands and floodplains. <https://www.mdba.gov.au/importance-murray-darling-basin/environment/rivers-wetlands-floodplains>

⁴ Volkofsky, A., Mabin, S. (2020) Darling River flows through Wilcannia after three-year dry <https://www.abc.net.au/news/2020-03-06/river-flows-through-wilcannia-after-three-year-dry/12032706>

they have killed the Darling River and stripped productive water from both NSW Murray and Vic Murray allocations⁵.

Victorian Murray allocations have been reduced due to decrease in flows through the Darling/Baaka system. The long-term average contribution from the Darling/Baaka is 39% of South Australia's entitlement meaning that when this contribution is reduced a higher proportion of this water must be supplied by the Murray System.⁶

The increase in floodplain harvesting seen in recent years and decades is in direct conflict with the Murray Darling Basin Cap (Cap) that the Murray Darling Basin Ministerial Council (MinCo) committed to in 1995. Both the *Commonwealth Water Act 2007* and *NSW Water Management Act 2000* require extraction to be limited to the level of development in place on the 30th June 1994. The Basin Plan set sustainable diversion limits (SDL) that included floodplain harvesting:

At the time the Basin Plan was made, the amount of floodplain harvesting in the Basin was estimated to be around 210 GL per year, although there was high uncertainty about the accuracy of this estimate.⁷

Of the 210GL, just 46GL was allocated for NSW rivers. By contrast, the South Australian Royal Commission into the Murray Darling Basin found:

Evidence was also provided to the Commissioner indicating that the New South Wales Government has acknowledged that floodplain diversions have been 'grossly underestimated' and may account for up to 600GL in the Gwydir.⁸

A report released this year by Slattery and Johnson mapped on-farm storages and calculated their capacity within Northern NSW. The report found that on farm storages increased by 142% between 1994 and 2020.⁹

⁵ Baldwin, S. (2021). *Opinion letter: SRI on floodplain harvesting*. Retrieved from Country News: <https://www.countrynews.com.au/opinion/2021/08/09/4828173/letter-sri-on-floodplain-harvesting>

⁶ Murray Darling Basin Authority. (2012). *Assessment of environmental water requirements for the proposed Basin Plan: Lower Darling River System*.

⁷ MDBA (2017) The Murray–Darling Basin Water Compliance Review—Part A, <https://www.mdba.gov.au/sites/default/files/pubs/MDB-Compliance-Review-Final-Report.pdf> , p42.

⁸ Walker (2019) Murray-Darling Basin Royal Commission Report, <https://www.mdbrc.sa.gov.au/sites/default/files/murray-darling-basin-royalcommissionreport.pdf?v=1548898371>

⁹ Slattery, M., & Johnson, B. (2021). *Floodplain water harvesting in the Northern New South Wales Murray-Darling Basin*. Slattery & Johnson. <https://irnnsw.files.wordpress.com/2021/02/21022-fph-final-report.pdf>

Although estimates on take vary quite significantly it is clear extraction is far in excess of the 46GL SDL on floodplain harvesting set for NSW.

Despite floodplain harvesting having been perceived as an 'issue of basin wide concern' since 1995 by the Ministerial Council (MinCo)¹⁰ the practice continues unlicensed, unmonitored and unmeasured more than 25 years on. This has led to the widespread understanding that the practice is currently unlawful. Indeed, the NSW Government has received legal advice from the Department of Planning, Industry and Environment to this effect:

The department has received confidential and privileged legal advice that under the Water Management Act 2000, unless basic landholder rights or an exemption applies, it is generally an offence to take water without an access licence, and to use a water supply work (e.g. a structure used for flood plain harvesting) without a water supply work approval (sections 60A and 91B of the Water Management Act 2000, respectively).¹¹

Despite this legal advice, floodplain harvesting without a license continues due to the ambiguity of the advice stating, "it may be arguable as to whether or not these offences currently apply to floodplain harvesting"¹². It is The Australian Institutes understanding this form of take is against the letter of the relevant legislation and certainly against its spirit. Such take should be stopped as a matter of urgency until levels are reduced to required levels under Cap and licenced accordingly. The Australia Institute supports the licensing and associated compliance frameworks in order for the form of take to be metered and measured. However, the current licensing frameworks being put forward by the NSW government do not provide effective protection of environmental flows and are not consistent with Cap or Basin Plan baseline diversion limits.

This introductory content is likely well known to the Committee and is noted here by way of introduction. The focus of the rest of our submission is the potential economic impacts of reducing floodplain harvesting to legal levels. Floodplain harvesting could be significantly reduced with minimal economic impact to regional communities

¹⁰ Murray Darling Basin Ministerial Council (1995) *An Audit of Water Use in the Murray Darling Basin*.

¹¹ Cloughton, D., & Condon, M. (2021, May 26). *Flood plain harvesting legal status 'uncertain' in NSW government legal advice*. Retrieved from ABC News: <https://www.abc.net.au/news/rural/2021-05-26/illegal-floodplain-harvesting-government-legal-advice-uncertain/100164210>

¹² Ibid.

Economic impacts of reduced floodplain harvesting

The environmental, social and legal arguments for a major reduction in floodplain harvesting volumes are strong, and will no doubt be covered at length in other submissions to this inquiry. The main argument against such a reform is likely to be economic.

Of course, businesses that have structured their operations around floodwater extraction will be affected and their profits significantly reduced. These are profit-seeking businesses engaged in an unlawful practice. In our view, what is more important is the potential impacts on employment, the wider economy of affected communities and public revenue.

In the sections below, we outline why the impact of a major reduction in FPH on the economies and communities of the MDB is likely to be small. This is because most floodplain harvesting operations are directed at cotton production. While not all floodplain harvesting water produces cotton, and far from all cotton is produced with FPH, analysis of the cotton industry provides the best proxy for changes to FPH practices.

The cotton industry is capital intensive and employs few people. Its outputs are exported with minimal processing and few of its inputs are produced locally. It has substantial foreign ownership and pays little tax. For these reasons local economies are unlikely to feel significant shocks from large reductions in floodplain harvesting volumes.

EMPLOYMENT

The Basin is home to over 2.6 million people¹³ and at the 2016 census just 1,007 of them put cotton growing as their main occupation.¹⁴ A more recent estimate by analysts at Ibis World estimates 4,900 jobs Australia-wide, which includes ‘the number

¹³ Murray Darling Basin Authority. (2020). *Murray—Darling Basin Authority Annual Report 2019–20*. Canberra: Commonwealth of Australia 2020. Retrieved from <https://www.mdba.gov.au/sites/default/files/pubs/mdba-annual-report-2019-20.pdf>

¹⁴ ABS (2016) *2016 Census – Employment, Income and Education*, accessed through TableBuilder Basic

of permanent, part-time, temporary and casual employees, working proprietors, partners, managers and executives within the industry'.¹⁵

The cotton industry is an intensive user of capital and water but uses little labour. As a result, few people work in cotton, or in cotton ginning within Australia. Ibis World observe that the industry it is becoming more capital and less labour-intensive over time:

The Australian industry has progressed technologically from handpicking cotton to harvesting cotton. Furthermore, developing insect-resistant plants and weed-protected fields has significantly reduced the need for labour inputs. Process automation, such as automated irrigation, has become more common over the past five years, placing upward pressure on capital intensity.

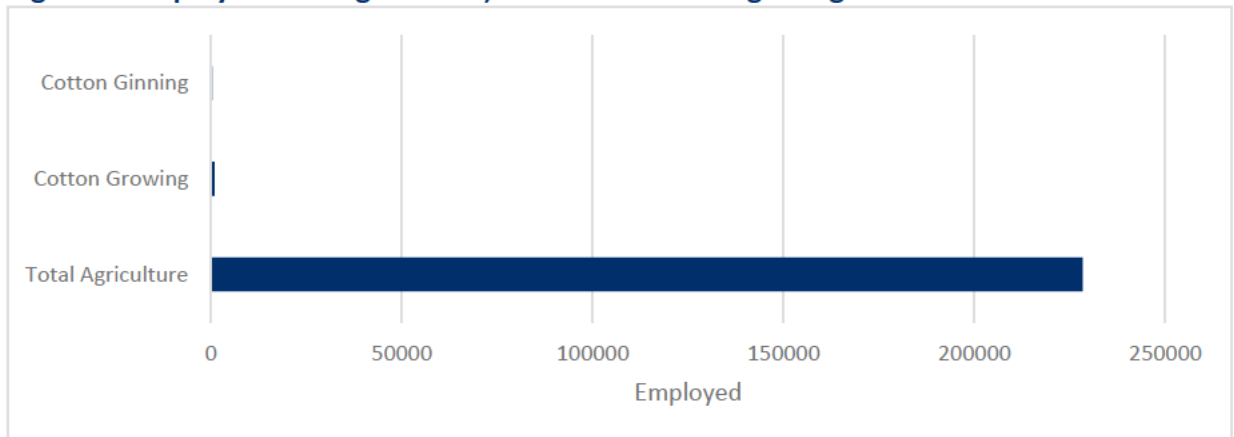
Growers primarily require labour in the land preparation stage of cotton growing, especially in irrigated cotton systems. However, after planting, operators use labour reducing machinery to complete the growing and harvesting process. This machinery caused reduced labour requirements and a trend towards greater capital investment in the industry. New technologies, such as remote soil monitoring and drones for crop surveillance, highlight growing investment in capital items, which has increased capital intensity over the past five years¹⁶.

The capital-intensive nature of cotton production means that while a lot of money is invested and a lot of machinery used, relatively few jobs are created. Within the Murray Darling Basin, a total of 228,372 people work within the agricultural industry while just 1,007 were cotton growers accounting for less than half a per cent (.44%) of total employment. The 349 people that work within cotton ginning make up just .15% of the industry's jobs. These figures are summarised in Figure 1 below:

¹⁵ Ibis World (2021) Cotton Growing in Australia, IBISWorld.com

¹⁶ IBIS World. (2021). Cotton Growing in Australia.

Figure 1- Employment in agriculture, cotton and cotton ginning in the MDB

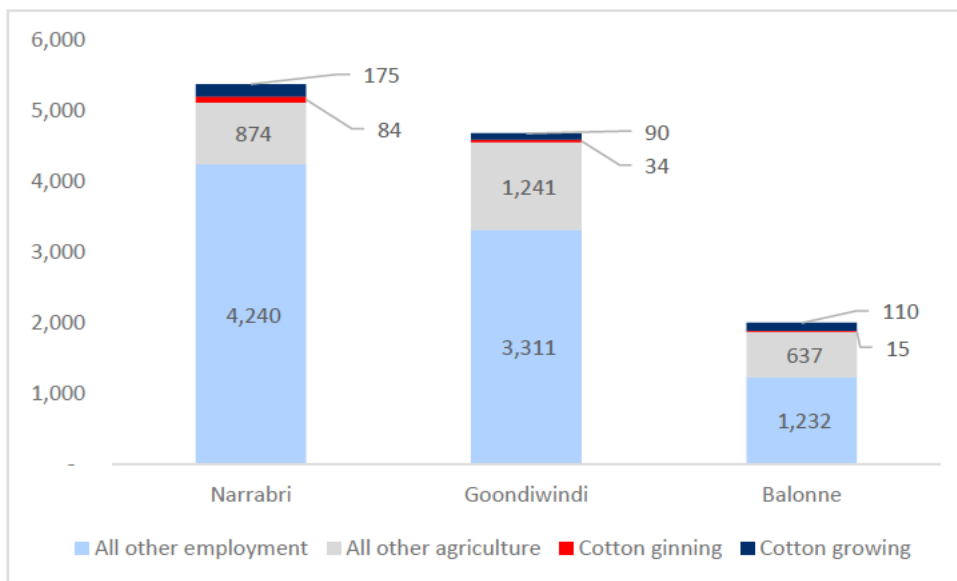


Source: ABS Census data

For the purpose of this submission three local government (LGA) areas have been selected for an analysis on their employment. The areas chosen are well known as cotton producing areas - Narrabri LGA which encompasses Wee Waa the 'cotton capital of Australia', Balonne LGA that encompasses St George and Goondiwindi LGA. While two of these LGAs are in Queensland, the results remain relevant to the NSW northern Basin.

Despite being well known areas for cotton growing and ginning both make up only a modest portion of agricultural employment within these areas. Even in areas known for being major cotton production areas, cotton is a minor employer, as shown in Figure 2 below:

Figure 2: Employment by industry in cotton growing areas



Source: ABS (2016) Census

Figure 2 shows that even in cotton producing local government areas (LGAs) such as Narrabri, Goodiwindi and Balonne, cotton and cotton ginning are small employers, making up just 4.8% of jobs in Narrabri, 2.7% in Goondiwindi and 6.3% in Balonne. In other words, even in LGAs known for cotton growing and ginning, 95% of jobs are in other industries.

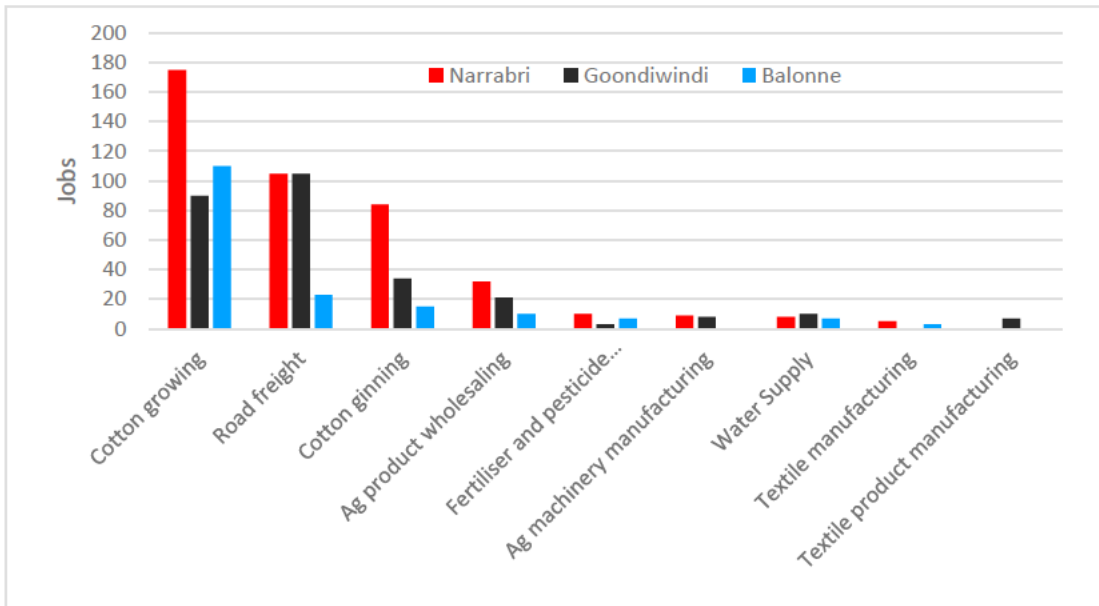
SUPPLY CHAIN INDUSTRIES

Lobbyists of all industries invariably claim that their industry supports jobs and businesses in other industries. To some degree this is true - all industries buy inputs from, and sell products to, other industries. However, cotton and cotton ginning buy from and sell to industries that are largely global or national rather than based in the Murray Darling Basin. Ibis World lists the details the cotton supply chain as:

- Key buying industries:
 - Textile manufacturing
 - Textile product manufacturing
- Key selling industries
 - Fertiliser and pesticide manufacturing
 - Agricultural machinery manufacturing
 - Water supply
 - Agricultural supply wholesaling
 - Road freight transport

Census data shows that none of these industries are major employers in cotton growing LGAs, as shown in Figure 3 below:

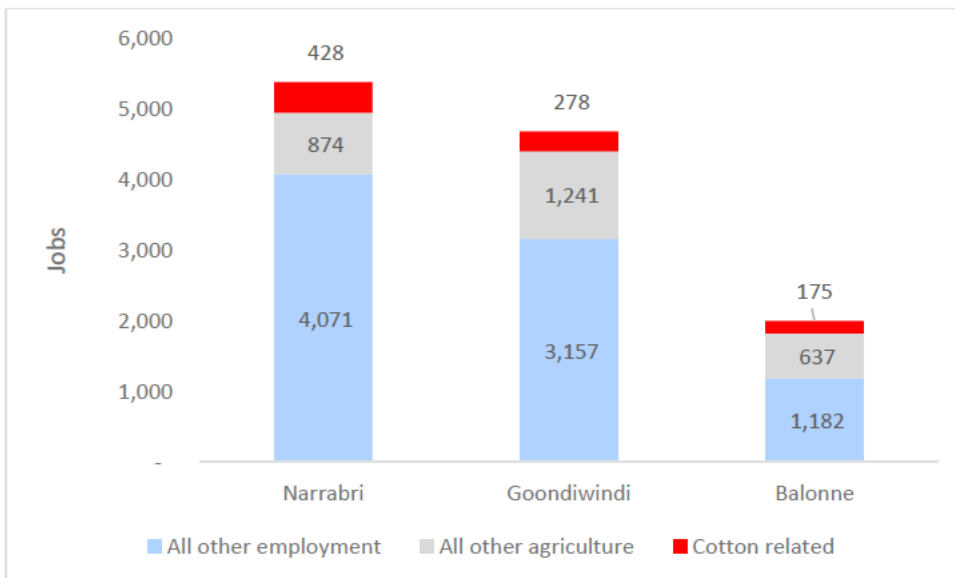
Figure 3: Employment in cotton and supply chain in selected LGAs



Source: ABS (2016) Census

Figure 3 shows that none of the cotton supply chain industries are significant employers in these local government areas. Furthermore, not all of the employment in supply chain industries is attributable to the cotton industry. Road freight and wholesaling serves a range of other industries in these areas. Figure 4 below compares all employment in cotton related industries to total employment in the three selected LGAs:

Figure 4: Cotton related employment and total employment in selected LGAs



Source: ABS (2016) Census

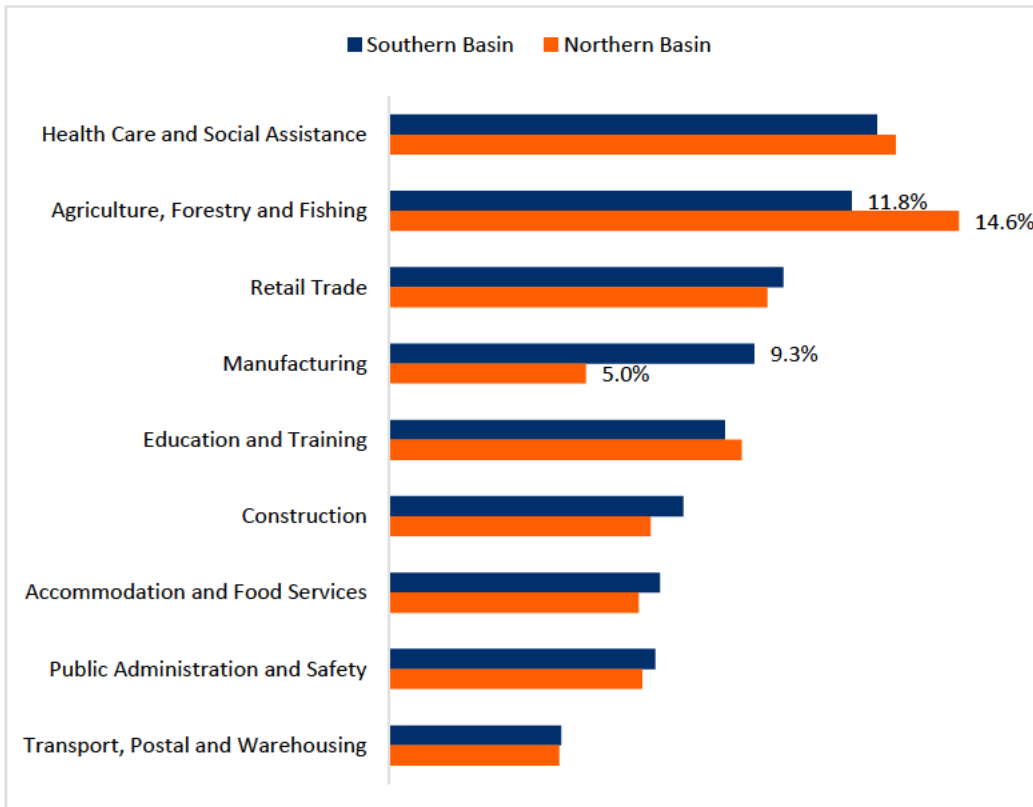
Figure 4 shows that even taking into account all employment in all supply chain industries, not all of which is related to cotton, cotton remains a minor factor in overall employment in cotton growing LGAs. Cotton related employment in Figure 4 above amounts to less than 8% in Narrabri, 6% in Goondiwindi and 9% in Balonne.

It bears repeating – not all of cotton related employment would be affected with a major reduction in floodplain harvesting volumes. Considerable amounts of cotton would still be grown and ginned. Other industries and activities would use the land and other resources that are currently used by floodplain harvesting cotton.

One of these resources is obviously water. Unsustainable floodplain harvesting has contributed to severe impacts down the Darling/Baaka such as the fish kills and communities running out of drinking water. These impacts would be reduced and there would certainly be social and environmental benefit downstream. Economic benefit is also likely with other agriculture and tourism likely beneficiaries.

More water flowing down the Darling/Baaka would make a contribution to South Australia's entitlement, freeing up water in the southern Basin that could be used for irrigation there. The supply chains of irrigation in the southern Basin are different to those in the cotton-dominated north. Far more processing of agricultural output is conducted in the south, on a range of food, fibre and wine products. This is in contrast to northern Basin cotton, which is largely exported without value adding. This is evident in Figure 5 below, which compares northern and southern Basin employment profiles:

Figure 5: northern and southern Basin employment, selected NRMRs

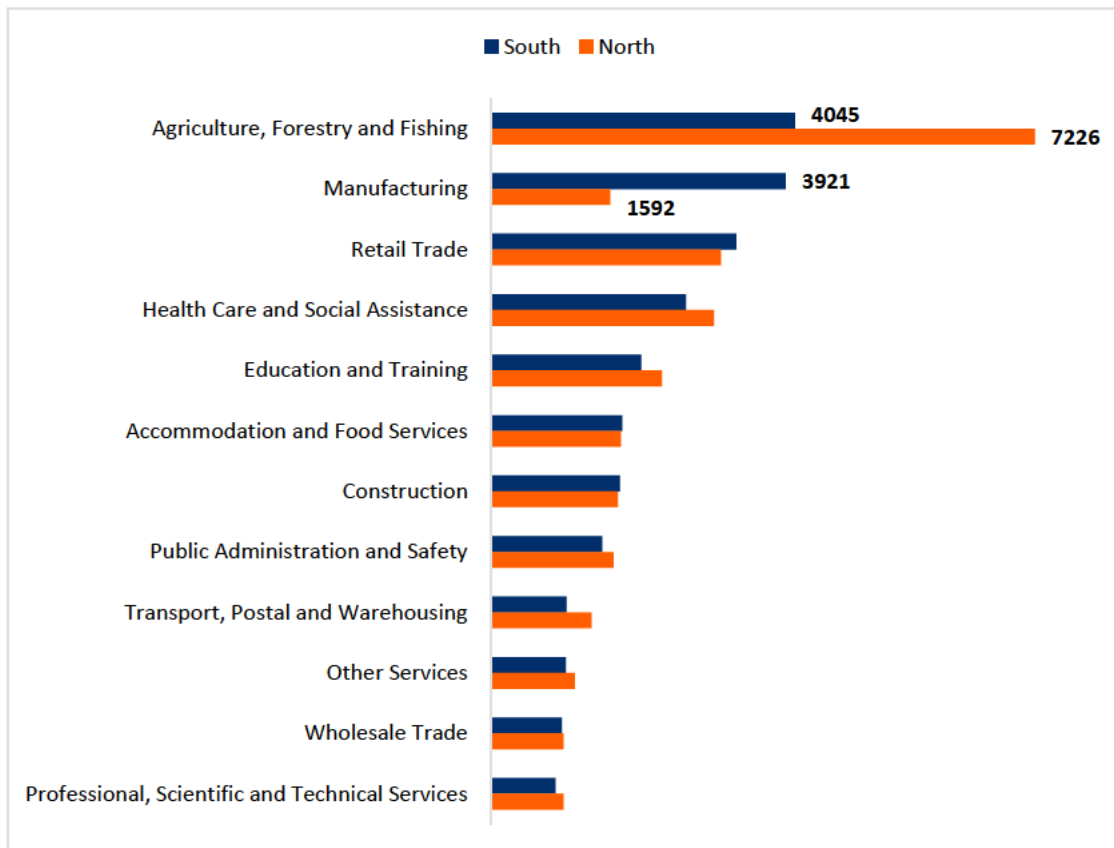


Source: ABS (2016) Census

Figure 5 compares the Natural Resource Management Regions of Riverina and Murray, representing the southern Basin, with North West and Central West, representing the northern Basin. The key difference between the two regions is in agriculture, forestry and fishing (which includes cotton ginning) and manufacturing (which includes all food processing). While the north has a slightly larger share of employment in agriculture, the south has a manufacturing sector nearly twice as large.

Figure 5 includes some major population centres that serve to minimise these differences in percentage terms. Depending on how northern and southern basin areas are defined within ABS regions, the difference between southern and northern agriculture and manufacturing is more or less stark. Figure 6 below compares Griffith, Leeton, Murray River, Narrandera, Hay and Edward River local government areas in the south with Moree Plains, Walgett, Balonne, Goondiwindi, Inverell, Narrabri and Gwydir in the north:

Figure 6: northern and southern Basin employment, selected LGAs



Source: ABS (2016) Census

Figure 6 shows the clear difference between employment in the southern and northern Basins, with irrigated agriculture in the north focussed on cotton exports with minimal processing, while irrigation in the south involves far more value adding, showing up in the far higher employment in manufacturing. The south supports a large wine industry, rice milling, meat and poultry processing, vegetable processing and a range of other food manufacturing. The north's identified manufacturing sectors are only meat processing and baking before non-food manufacturing sectors begin.

Both south and north areas in Figure 6 have total employment around 30,000 people. Being nearly the same they are displayed in absolute numbers rather than percentages as in Figure 5, where the total southern employment of almost 125,000 is significantly larger than the north's 97,000.

The pattern of an agriculture-heavy north and a manufacturing-heavy south increased between the 2011 and 2016 censuses. The south saw manufacturing employment increase by around 140 between 2011 and 2016 while manufacturing employment declined by 240 in the north.

The point of this comparison is that reducing floodplain harvesting in the north could increase water use in the south, where its use is likely to be more jobs-intensive due to closer links with the manufacturing sector. Reducing floodplain harvesting could increase overall employment across the Basin.

PROFITS AND TAXES

Ibis World estimates 2020-21 cotton industry revenue at \$1.2 billion, of which \$386 million is 'industry value added', a crude measure of profit.¹⁷ How much of this goes on to benefit the wider Basin community and economy is unclear, as many key investors are based outside the Murray Darling Basin. The most famous examples include:

- Cubbie Station is predominantly owned by Chinese multinational Ruyi and Macquarie Bank.
- Eastern Australia Agriculture's parent company is domiciled in the Cayman Islands tax haven.
- Auscott Limited and its parent organisation Australian Food and Fibre Limited are backed by PSP Investments, one of Canada's largest pension investment managers
- Before being taken over by PSP Investments in 2020, Webster Limited Chairman, Chris Corrigan was based in Switzerland.

Cotton has a reputation as a lucrative and profitable crop. According to analysis by Boyce Chartered Accountants, the top 20% of cotton producers have made strong profits every year this century.¹⁸ Despite this, according to Australian Tax Office (ATO) data, major cotton processing and producing companies rarely pay significant amounts of company tax.¹⁹ Over years for which data is available (mainly 2013-2018):

- Namoi Cotton had \$2.8 billion in revenue but paid no company tax.
- Auscott Limited had revenue of \$1.2 billion, but paid just \$3.2 million in company tax.
- Webster Limited had revenue of \$848 million, but paid just \$8.7 million in company tax.

¹⁷ Ibis World (2021) Cotton Growing in Australia, IBISWorld.com

¹⁸ Boyce Chartered Accountants (2020) *2019 Australian Cotton Comparative Analysis*, <https://www.boyceca.com/boyce-newsfeed/2019-australian-cotton-comparative-analysis-released>

¹⁹ ATO (2020) *Corporate tax transparency*, <https://www.ato.gov.au/Business/Large-business/Corporate-tax-transparency/>

In total, these major cotton producers enjoyed turnover of \$5 billion between 2013-14 and 2018-19, reported taxable income of \$42 million and paid \$12.5 million in corporate tax. Revenue is not reflective of profit and there are many reasons why companies pay no tax in particular years. No allegation of illegality is made here. What is clear, however, is that reducing floodplain harvesting is unlikely to have a significant impact on tax take and funds available for Basin communities.

Conclusion and recommendation

The Australia Institute is supportive of the Water Management (General) Amendment (Floodplain harvesting exemption) Regulation 2020 that floodplain harvesting be licensed provided important caveats are included. Floodplain harvesting should not be exempt from requiring a works approval. We object to the exemption of rainfall runoff to be licenced. All rainfall runoff over the 10% harvestable right must be licenced under the regulations.

We support the licensing of floodplain harvesting provided the level of take is brought under Cap and the SDL is not expanded to cover historical take. The licensing of floodplain harvesting must address illegal floodplain works. We also acknowledge the current modelling is not fit for purpose. To ensure river connectivity and end of system flows, flow targets must be introduced downstream that are based on environmental, cultural and basin landholder needs.