

Community Trust in the Australian Cotton Industry

December 2023



CITATION

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RESEARCHER CONTACT DETAILS

Dr Kieren Moffat

Voconiq CEO and Co-founder

info@voconiq.com

VOCONIQ, OUR STORY

Voconiq is an Australian data science company built on a platform of research developed by Australia's national science agency, CSIRO. The Voconiq founding team spent 11 years in CSIRO building this science platform, engaging over 70,000 community members in 14 countries to understand what leads to deeper trust between industries, companies and governments, and the communities they work alongside. Founded in 2019, Voconiq was created as a vehicle for delivering this science as a service globally. Voconiq is the home of Engagement Science and we are passionate about giving voice to communities large and local about the issues that matter to them and helping those that work alongside them to listen to community voices effectively.

To learn more, go to www.voconiq.com

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INTRODUCTION

The Australian cotton industry is woven into the fabric of Australia's economic and cultural history while finding itself challenged in the present. As community expectations change, all industries must work to understand and respond to secure and maintain a social licence to operate. The cotton industry faces challenges to its social acceptance, experiencing fluctuations in public sentiment tied, it would seem, to environmental factors beyond its control.

Aligned with the principles of the Community Trust in Rural Industries (CTRI) program of research, Voconiq has worked to deliver a longitudinal social licence research program focused explicitly on the cotton industry. Through 2020-2023, we have observed environmental management as a resilient and influential factor in cultivating community trust and acceptance of the cotton industry. In particular, its use of water.

While water as an issue will come as no surprise to those within and around the cotton industry, we can characterise this issue to reveal its nuance and the pragmatic steps to consider toward insulating the industry from unfair criticism through management practices, governance practices, and engagement strategy.

In the 2023 survey, concerns about drought have eased among Australians. This has contributed toward an improvement in community trust in and acceptance of the industry, alongside more direct action the industry has undertaken. However, a key challenge for the industry is the extent to which community sentiment is tethered to background environmental conditions.

Coupled with this, community members see environmental responsibility as a collective duty of all rural industries (per CTRI findings), that the cotton industry should do more to hold its growers accountable for water-related transgressions, and a decrease in the belief that the industry has done enough to sufficiently address water use-related issues.

This iteration of the research has also shown that community members remain consistent in their view that being open, transparent and reflective following water related incidents is a positive pathway to a more productive, mature relationship between the Australian people and the cotton industry. New questions included this year also reveal strong support for growth of the industry into Northern Australia, so long as environmental impacts are considered and managed.

The cotton industry also continues to be viewed favourably in its capacity to listen and respond to community concern, a key attribute of both the social

licence modelling conducted on the 2020 baseline survey data and mechanism for addressing issues as they arise. Along with increases in trust and acceptance, this is good news for the cotton industry and provides the settings for tackling challenging areas with confidence.

Another area investigated in detail in this 2023 survey was the latent risk of supply chain human rights concerns. Again, the findings provide encouragement for this within the industry tasked with managing this issue, with community members quite clear that while human slavery is unacceptable, the responsibility for ensuring an ethical supply chain rests with a broader coalition of interests than the cotton industry alone. As we have seen with animal welfare in rural industries where this is their central social licence issue, Australians should not be underestimated in their capacity to understand the complexity and nuance in issues like this. Again, that insight has value in shaping industry responses and strategy.

As this program of work matures, it transitions from issue discovery to tracking sentiment on issues we know are material to social licence. In our 2023 research, we delve into public perceptions of the cotton industry, gauging their reception based on the community's connection to the sector. This report summarises the findings of the 2023 national survey, presenting longitudinal trends on crucial issues shaping the cotton industry's social licence to operate, alongside focal questions on ethical supply chain and expansion of operations to Northern Australia.

THE RESEARCH APPROACH

WHAT DID WE MEASURE?

The national community research initiative within the Australian cotton industry sought to develop an in-depth understanding of community perspectives regarding the sector. Its primary objectives are to monitor and compare key indicators related to community attitudes, trust, and acceptance of the Australian cotton industry over time. Additionally, the program aims to explore emerging issues, such as perceptions concerning water usage. This is the fourth year of data collection for the Australian cotton industry, with research commencing in 2020. All surveys are completed via an online survey. The survey instrument comprehensively examined issues material to the relationship between the cotton industry and the Australian community, including:

- environmental impact,
- economic viability,
- governance and regulation,
- trust and acceptance of the cotton industry in Australia, and
- participant demographic characteristics.

Before beginning the survey, all participants read information about the study and were required to indicate that they understood the research aims, funding source for the research (Cotton Australia and Cotton Research and Development Corporation), and how participant data may be used. The following industry definition was also included, consistent with previous iterations of the research:

“Cotton is grown in the inland regions of northern New South Wales and southern Queensland. Australia is one of the world’s largest exporters of raw cotton with more than 99 per cent of production exported, mainly to Asian spinning mill customers, where it is used to manufacture clothes, fabrics, and other products.”

Sampling method

In 2023, Voconiq collected a nationally representative sample of survey data by gender and age according to Australian Bureau of Statistics (ABS) data¹. The research used a refined online survey instrument that is consistent with the measures used in previous research conducted into the Australian cotton industry. 3,288 surveys were completed with 2,730 retained for analysis after

¹ <https://www.abs.gov.au/statistics/people/population/national-state-and-territory-population/latest-release>

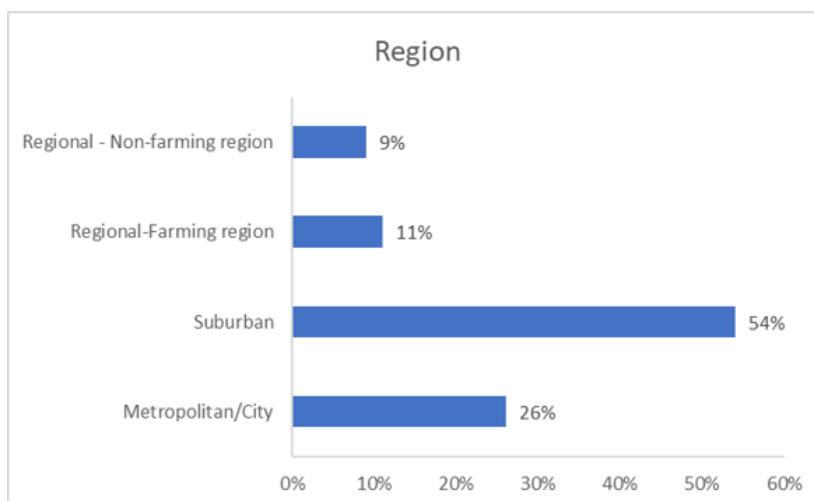
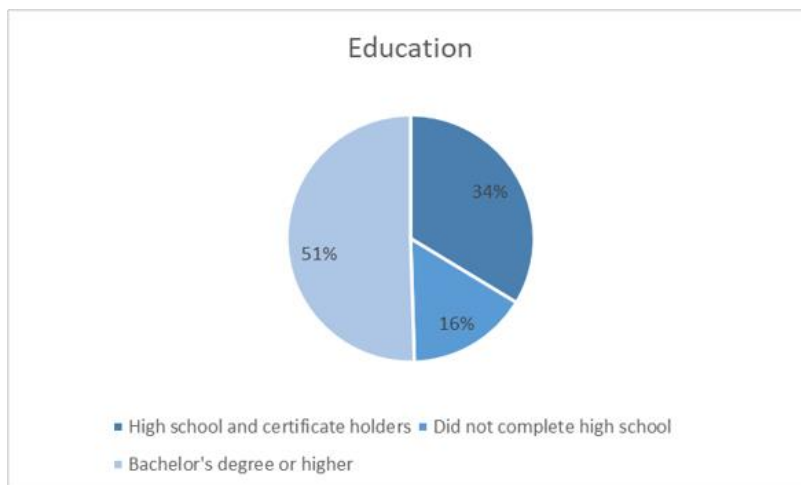
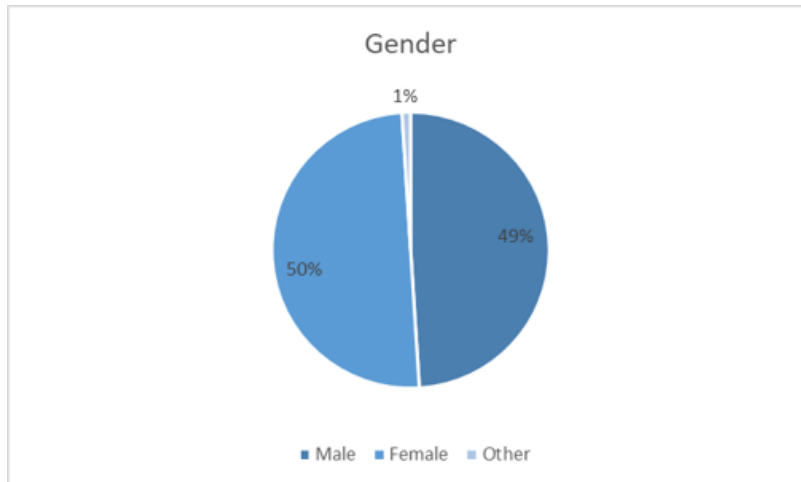
data cleaning². The representative sample is collected via a research panel provider and participants are paid a small amount for their time. Participants do not know the topic of the survey when they choose to participate. Participants needed to indicate they were over the age of 18 years. This report contains a summary of the data for the nationally representative sample.

Analysis and reporting

The survey data collection period was between 18 October and 6 November 2023. Once the data was collected, statistical analyses were completed including a thorough data cleaning process. The data cleaning process involves excluding surveys from the analysis for various reasons such as missing data, brief completion times or responses that indicate carelessness or suspicious consistency (e.g. answering '1' to all questions).

² 'Data cleaning' is conducted in order to ensure the quality of data included in analyses is high. This involves screening and potential removal of surveys where, for example, participants answered the survey very quickly (i.e. less than 5 minutes), in ways that indicate lack of attention to the content of questions, and extreme or consistent responding on survey questions (i.e. answering '1' to all questions). For more detail on what this involves, see Meade AW and Bartholomew C. (2012) Identifying careless responses in survey design. *Psychological Methods*, 17(3), 437-455. DOI: 10.1037/a0028085.

WHO COMPLETED THE SURVEY?



BUILDING RELATIONSHIPS

Over the last four years, longitudinal data collection has shaped a picture of the relationship between the Australian community and the Australian cotton industry. The relationship has changed, with the community becoming increasingly positive towards the Australian cotton industry.

A primary focus for this research over the last four years has been the role of trust in shaping the relationship between the Australian community and the cotton industry. Trust emerges as a critical driver of community acceptance of the cotton industry, serving to translate community expectations and experiences into a robust social licence to operate (i.e. level of community acceptance of the industry's activities in Australia).

Within the research framework, trust is assessed through three distinct questions, employing a scale ranging from 1 (Not at all) to 5 (Extremely). Acceptance is measured using a single item, using the same response scale as the trust items.

In 2023, both trust and acceptance have increased significantly relative to the 2022 survey. However, there is an interesting pattern over time in this data. Trust and acceptance dropped sharply in 2021 relative to the baseline measure in 2020. Since 2021, acceptance has climbed steadily while trust in the industry declined through 2022, followed by a sharp improvement in 2023 (see Figure 1). Several contextual factors are important to consider when viewing this pattern.

Results in 2020 (baseline) were likely inflated by the impact of COVID-19 on a range of industries, including agriculture and mining. This is a pattern that we observed in the Community Trust in Rural Industries (CTRI) project, other Australian agriculture-based projects, and globally in our work at local scales with mining communities. This likely exaggerates the difference between 2020 and 2021. Similarly, we observed drops in many datasets in 2021 as the acute phase of the pandemic extended to continue disrupting the lives of many Australians.

Distortions aside, trust in and acceptance of the cotton industry have operated somewhat more independently than they do in most Voconiq projects. As shown in the baseline data modelling (Figure 2), there are direct drivers of acceptance although only one (growing cotton in Australia is unnecessary) predicts acceptance independent of trust. This topic relates most strongly to growing cotton in a 'dry' country. Of real interest here is the very close relationship between the pattern in responses over time we see for acceptance and those we see on items such as "The cotton industry uses more water than it is entitled to" (Figure 5). Again, this illustrates that the fate of the cotton industry in Australia with respect to community sentiment is

closely tied to environmental factors (perceived dry years / drought) and the legitimacy of the cotton industry in accessing water in this variable context. This is not a 'clean cut' story given the influence that other water and environment related items and drivers have on acceptance *via* trust, but it does illustrate the uniqueness of cotton amongst agriculture industries in Australia.

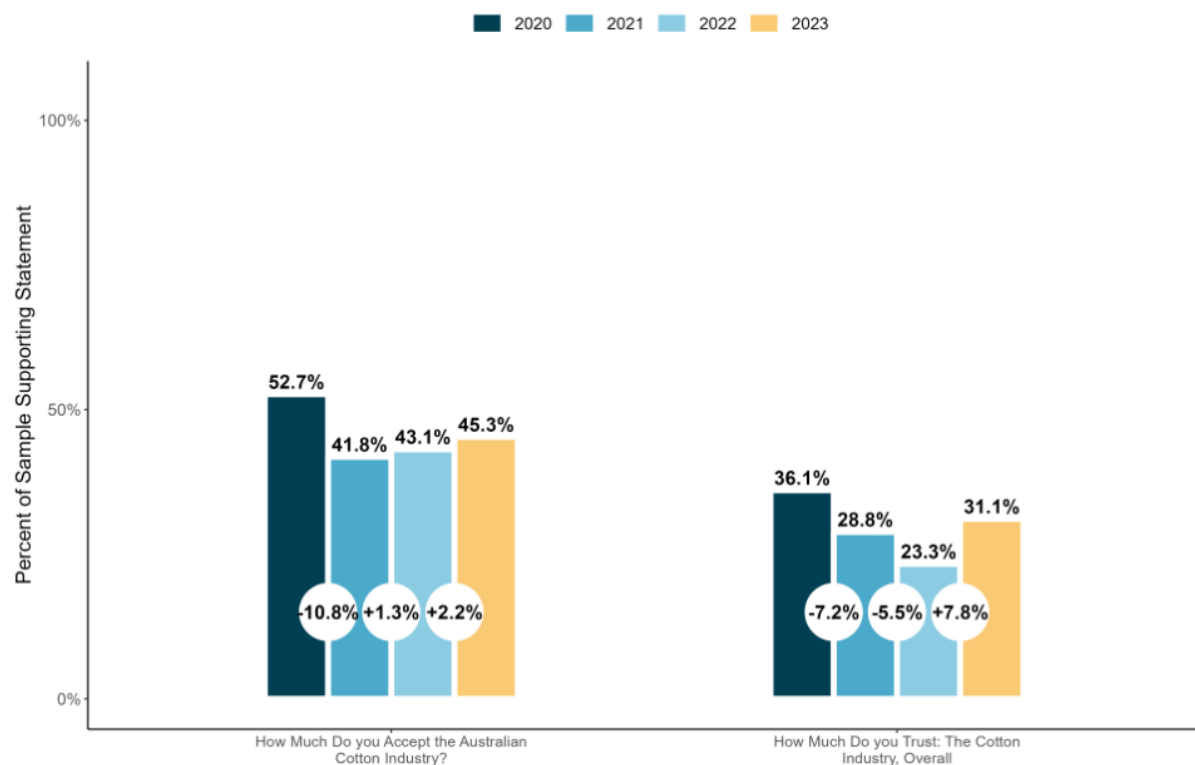


Figure 1. Percentage of agreement with trust and acceptance items, 2020-2023.

In 2020, the factors contributing to both trust and acceptance in the Australian cotton industry were investigated using path modelling. This model serves as a blueprint to be used in this paper to understand what the key areas are to focus on and highlight what has changed in the past four years in the relationship between the Australian Cotton industry and the Australian community. The 2020 path model (Figure 2) showcased three primary areas of focus for the cotton industry:

- industry responsiveness (procedural fairness),
- environmental responsibility, and
- the fair use of water.

Additionally, three “supporting players” were identified in the modelling:

- government regulation,
- the importance of the cotton industry to Australia, and
- rural identity.

In the next section of the report, we will discuss our findings in these key areas.

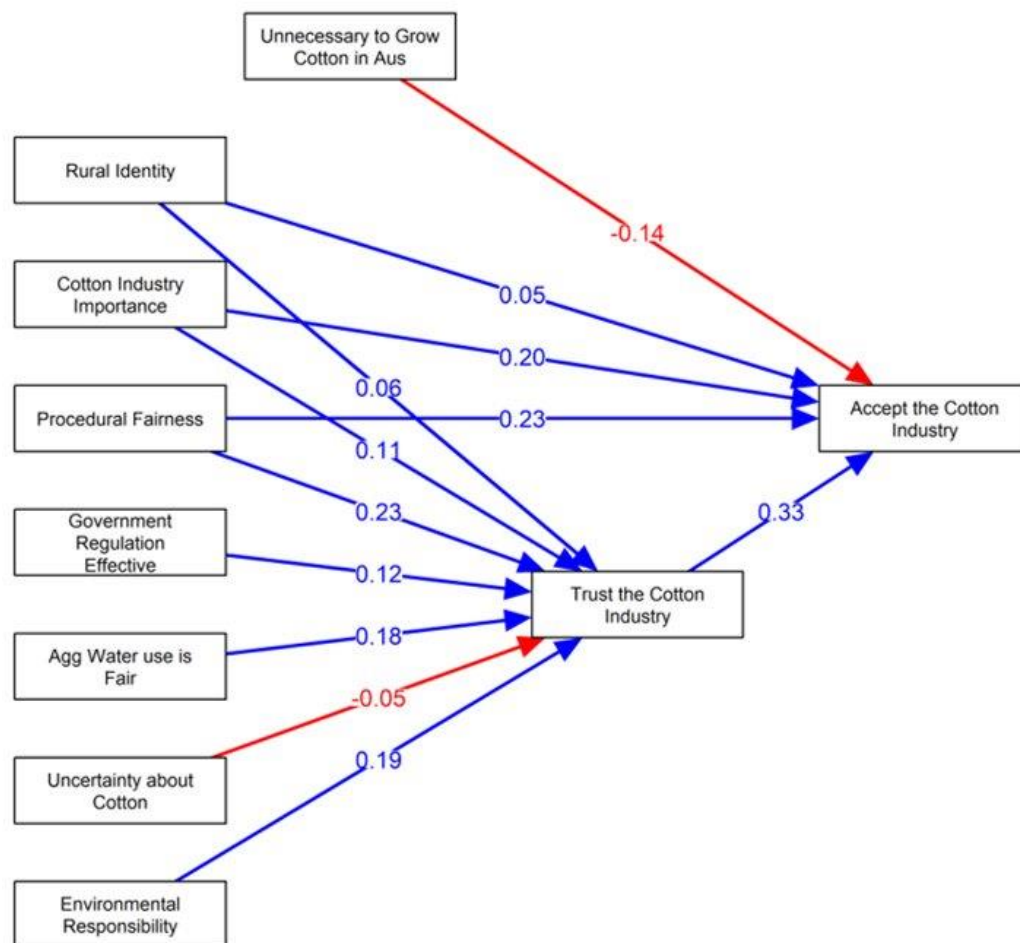


Figure 2. 2020 cotton industry trust model.

How to interpret the path model

A path model shows how all included variables (i.e., collections of survey questions that measure the same or similar topics) relate to each other. In this path model we are exploring what leads to trust and acceptance of the Australian cotton industry, shown by the blue arrows. The numbers represent the strength of the relationship between two variables, relative to all other relationships in the model. For example, environmental responsibility is a stronger driver of trust than rural identity.

INDUSTRY RESPONSIVENESS

As with previous years, and consistent with other agricultural sectors, industry responsiveness has shown to be significant for communities in the context of trust. Community sentiment surrounding the industry listening, and responding, to community concerns has remained stable. This year 44.5% of Australians agreed or strongly agreed that the Australian cotton industry is prepared to change its practices in response to community concerns (Figure 3), whilst this score has increased by 4.4% since 2022, a large percentage of neutral scores on this question (42%) highlight an opportunity for action. Additionally, when asked about key issues such as response to water use, the percentage who agree or strongly agree that the industry hasn't taken enough action to respond to these issues reduced by 5% to 38%, highlighting the opportunity to capitalise on improved public sentiment (Figure 3).

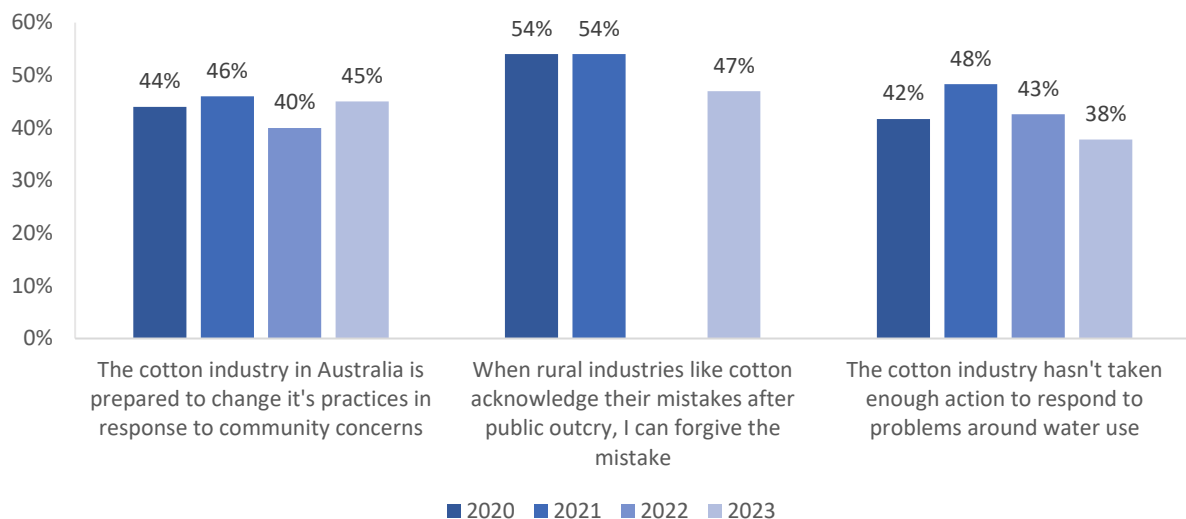


Figure 3. Percentage of agreement with responsiveness of the cotton industry, 2020-2023.

The strong benefit of the doubt cotton has had from the Australian community is declining, with 47% of community saying they could forgive a mistake by the industry if it acknowledges the mistake (Figure 3). These scores coupled together highlight a significant call by the Australian community for the cotton industry to respond to issues highlighted in this research, and an opportunity to do so when buffered by favourable environmental conditions, predominantly perceived water availability (or perhaps lower stress on shared use of this resource).

ENVIRONMENT AND WATER USE

As per the 2020 modelling, how the cotton industry interacts with its environmental context, and in particular water resources, strongly influences its social licence to operate. We measure a range of issues around water use by the industry, environmental impacts, and ways the industry demonstrates responsible practice.

New in 2023, we measured a series of additional questions related to different environmental themes; emissions and pesticides (Figure 4). Overall, results are positive for cotton with a high percentage of community members agreeing or strongly agreeing with the statement “I trust Australian cotton farmers to use pesticides responsibly” (61%). Additionally, many agreed or strongly agreed that the cotton industry is committed to greenhouse gas emissions, with a large percentage neutral answer, presenting an opportunity for the industry (41%, compared to 10% disagree or strongly disagree, and 50% neutral).

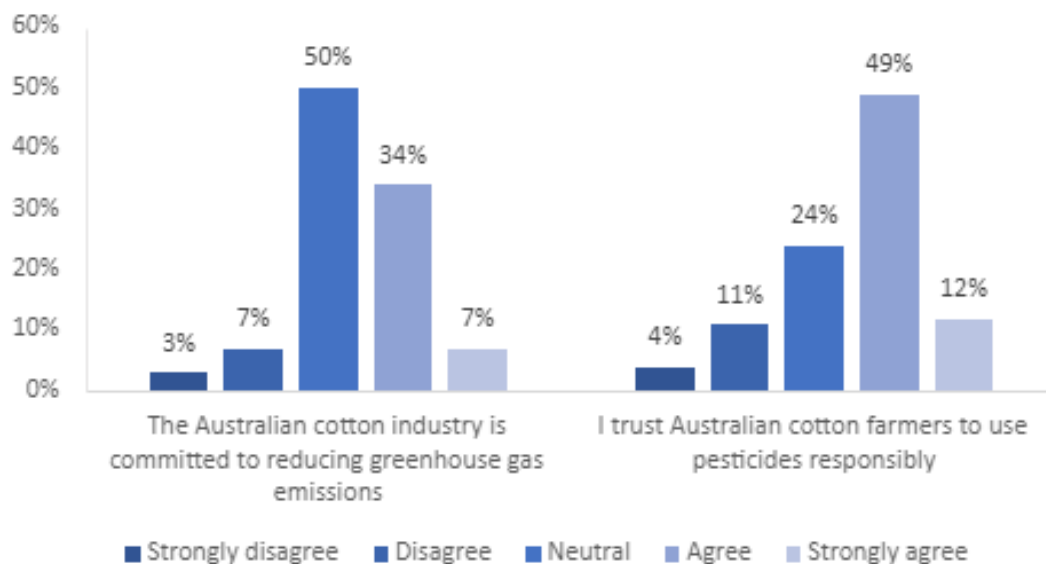


Figure 4. Percentage of agreement with cotton environment questions, 2020-2023.

In 2020, fair water use was a strong positive driver of trust. When investigating individual questions related the fair use of water and the industry's regulation of it highlighted some critical opportunities in 2023. Overall, concern around drought and water use have lessened this year. More than most industries, background environmental conditions appear to influence community sentiment toward the cotton industry.

Looking at the individual items related to water use in the Australian cotton industry, attitudes around water have moved substantively. When asked to about drought in Australia, the percentage of Australian community who agreed or strongly agreed that they were worried about drought as an issue

for Australia has decreased from 80.3% in 2020 to 72.7% in 2023. Additionally, perceptions around the use of water in the cotton industry continue to decline, with 25.3% of participants responding with either agree or strongly agree when asked If the industry uses more water than it is entitled to, a decline of 9.1% from previous measure (Figure 5).

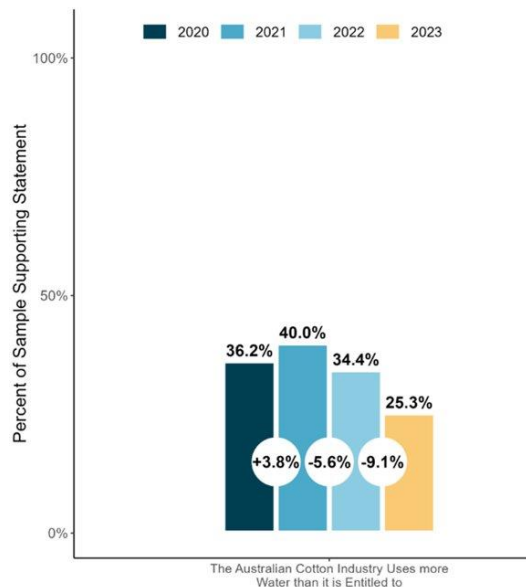


Figure 5. Percentage of agreement with cotton water use question, 2020-2023.

Despite apparent changes in concern about background environmental conditions in Australia, community concern about the use of water in the cotton industry remains high. The question “The cotton industry in Australia uses water responsibly” maintained a relatively stable percentage of agreement as in 2020 (43% in 2023, from 41.8% in 2020) and was found to have the most positive correlation with trust and acceptance (i.e. when it goes up trust and acceptance go up).

Conversely, the question “The industry uses more water than it is entitled to” has dropped significantly to 25.3% agree or strongly agree (down by 9.1% from last year) and was the most negative correlation of trust and acceptance for 2023 (i.e. when it goes down trust and acceptance go up). These act as protective mechanisms to the relationship between the Australian community and the cotton industry but are heavily influence by water availability and rainfall.

“Water is so precious to our farmers and we need regulations to the cotton industry more efficiently.”

- 2023 survey participant

“I think we should strongly control the water consumption of cotton. Everyone should take responsibility.”

- 2023 survey participant

REGULATION

An area identified as a significant opportunity for the cotton industry in 2023 was regulation, with many answers highlighting a large neutral percentage in responses. When participants were asked if they thought the regulation of the Australian cotton industry is effective, there was a high neutral response (50%). A similarly high neutral response emerged when participants were asked whether penalties for misuse of water were severe enough (40%; Figure 6). In this data, strongly neutral responses provide an opportunity for the industry to proactively engage and educate on the practices taken to manage water, and to grow the relationship with community through this channel.

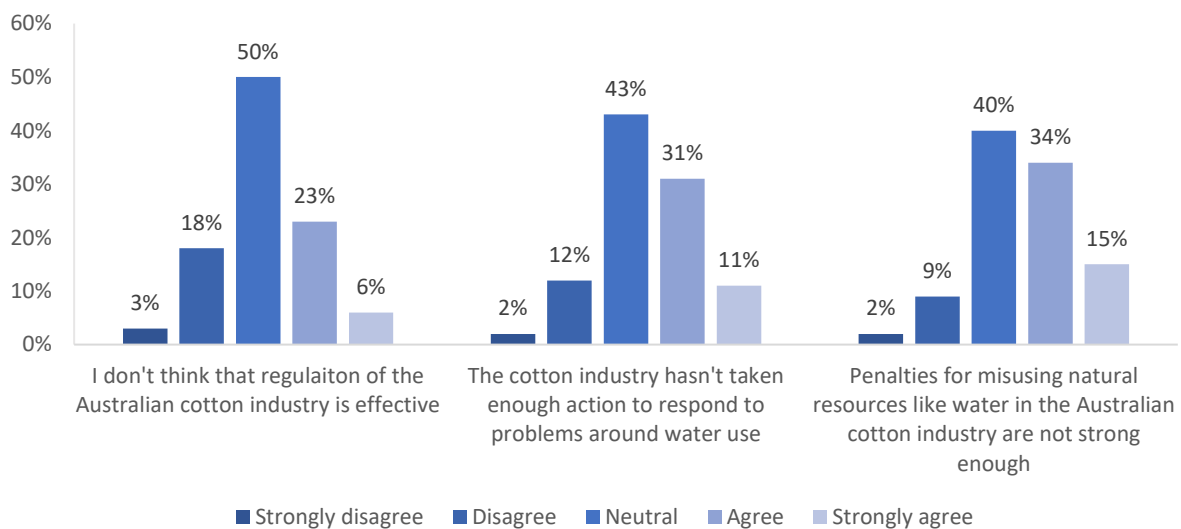


Figure 6. Distribution of scores on regulation of water in the Australian cotton industry, 2023.

Together, these measures show that overall sentiment toward the cotton industry's environmental credentials are improving in the context of a drought free period in Australia. Increased confidence in the internal governance of the industry and regulation of the industry can enable the industry to continue building positive community sentiment when times are tough, such as during periods of drought.

RURAL IDENTITY AND IMPORTANCE

A secondary issue outlined in the modelling in 2020 was rural identity and the importance of the industry to the nation. In 2023, sentiment on these topics remained strong or improved, although significant neutral responses again provide opportunities for the industry.

When asked questions related to the importance of the Australian cotton industry between the original collection in 2020 and now in 2023, the community continues to believe the cotton industry is important to Australia, to the regional communities in which it operates, and to Australian export markets, with sentiment improving on these three questions in 2023 (Figure 7).

Additionally, when asked about the sharing of benefits, percentage of those who agree and strongly agree increased by 6.3% in 2023 to 45.7%. Despite this, the high number of neutral answers in key metrics such as whether the benefits go to cotton farmers (41% neutral) suggests some uncertainty within the community about practices related to the Australian cotton industry.

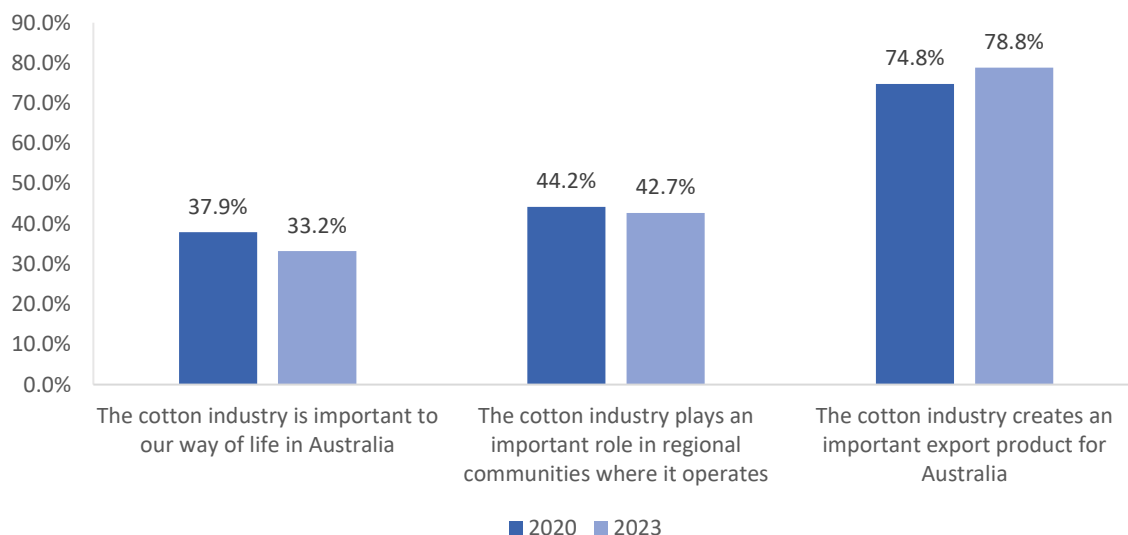


Figure 7. Percentage agreement with rural identity measures, 2020-2023.

The Australian cotton industry is a very important part of Australia's export economy.

-2023 survey participant

The cotton industry brings a huge amount of money into Australian revenue and the farmers are very considerate.

-2023 survey participant

RESPONSIBILITY AND ACCOUNTABILITY WITHIN INDUSTRY

In 2023, two areas seen to increase in importance for the Australian community were responsibility and accountability within the Australian cotton industry. These results provide some guidance to where industry action could provide high impact to overall trust and acceptance.

A significant proportion of the Australian community either agree or strongly agree that cotton farming organisations should hold individual cotton farmers to account for their actions (73.6%), an increase of 13.6% on 2022 (Figure 8). Moreover, when evaluating whether the industry has sufficiently addressed a significant issue like water use, the proportion of respondents expressing agreement or strong agreement has reached its lowest point in 2023 at 37.8% (Figure 8). These findings indicate that the Australian community does not attribute sole responsibility to the individual farmer; instead, there is a collective expectation for the entire industry to be accountable for its actions.

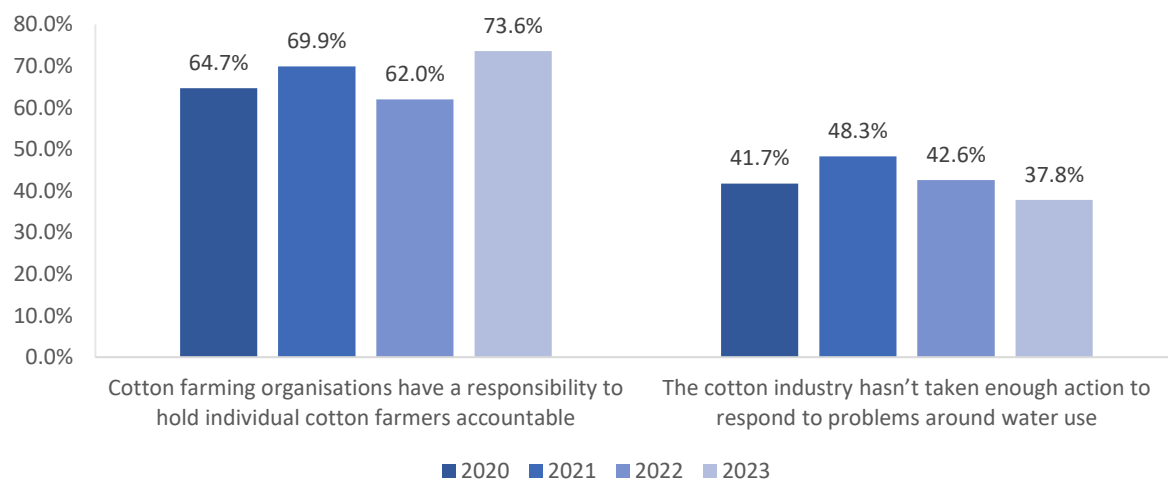


Figure 8. Percentage agreement with responsibility and accountability measures, 2020-2023.

These findings underscore a community that values accountability for actions. They also provide continued, strong evidence that proactively addressing concerns raised by the community is a productive pathway to deeper trust.

I believe the cotton farmers have the same responsibility as the cotton organisation has to use the land and water before damaging the environmental land.

-2023 survey participant

2023 FOCAL TOPICS

In 2023, two new focal topics were added as part of this research. These were designed in consultation with both Cotton Australia and Cotton Research and Development Corporation, who provided input into relevant issues they had been experiencing in the past year. These two topics were ethical supply chains and expansion to Northern Australia. These topics will be discussed in the following section.

ETHICAL SUPPLY CHAINS

In response to concerns raised by community members in 2023, a dedicated focus block on ethical supply chain issues was established this year, complementing existing inquiries into worker exploitation. These concerns primarily revolved around the working conditions post-harvest in international markets, particularly amid reports on Chinese processing systems. To assess this quantitatively, two new survey items were introduced, examining community perceptions of ethical supply chains and the presence of modern slavery in these supply chains.

The responses to these inquiries revealed two key findings. Firstly, there is a high level of agreement regarding industry responsibility (82% agree or strongly agree) and farmer responsibility (Figure 9) to ensure ethical supply chains. Secondly, a segment of the community acknowledges the role consumers can play in addressing these issues (15%). The combination of these factors, along with a substantial percentage of respondents expressing neutrality (52%) when asked about the seriousness of worker exploitation in Australia, underscores a potential risk to the Australian cotton industry if this issue gains prominence in the public domain.

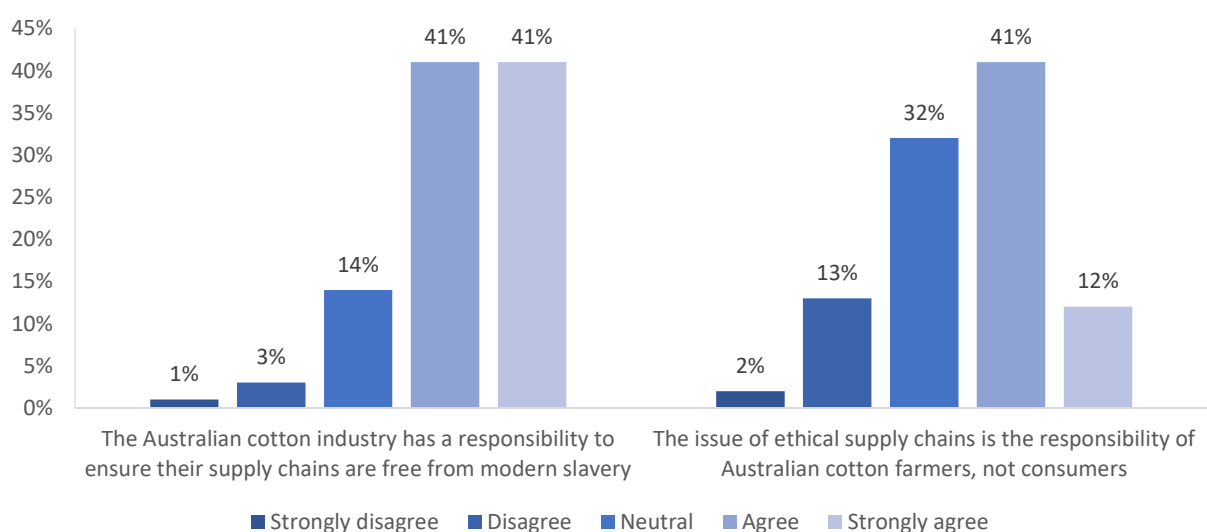


Figure 9. Distribution of scores of cotton industry ethical supply chains, 2023.

OPERATIONS IN NORTHERN AUSTRALIA

In 2023, the second set of focus questions delved into the potential expansion of cotton industry operations into Northern Australia. These inquiries specifically examined the costs and benefits associated with such expansion and gauged the overall acceptance of such a move.

The initial question revealed that 26% of the community either agreed or strongly agreed that the economic benefits of cultivating cotton in Northern Australia outweighed the environmental impact (Figure 10). The subsequent question indicated that a majority of the community, 58%, agreed or strongly agreed that it was logical for the Australian cotton industry to extend its operations to new areas, such as Northern Australia (Figure 10).

These findings highlight that while environmental concerns persist within the community, especially when considering new production areas, there is considerable support for such expansion. It suggests the importance of addressing environmental apprehensions through community discussions to foster understanding and mitigate concerns as the industry explores new production territories.

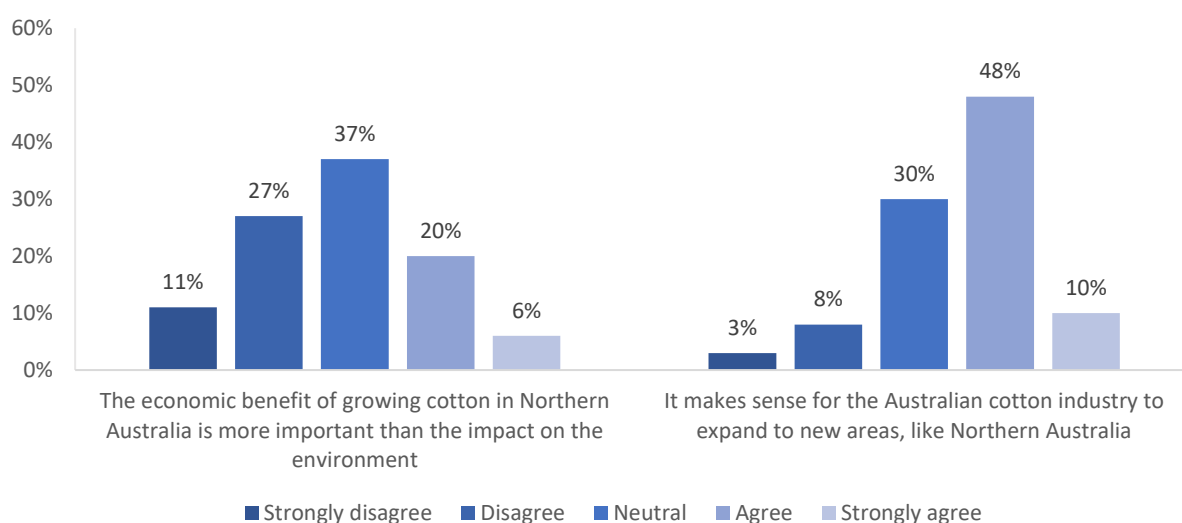


Figure 10. Distribution of scores on Northern Australia production, 2023.

BUILDING TRUST AND ACCEPTANCE

The relationship between the Australian cotton industry and its broader community has exhibited notable improvement this year, marked by advancements in procedural fairness, acceptance, and overall trust across all cotton-related aspects compared to the previous year (Figure 11). The decline trend observed in the post-2020 years has either halted or started to reverse in the current year, with diminishing concerns regarding critical factors like water.

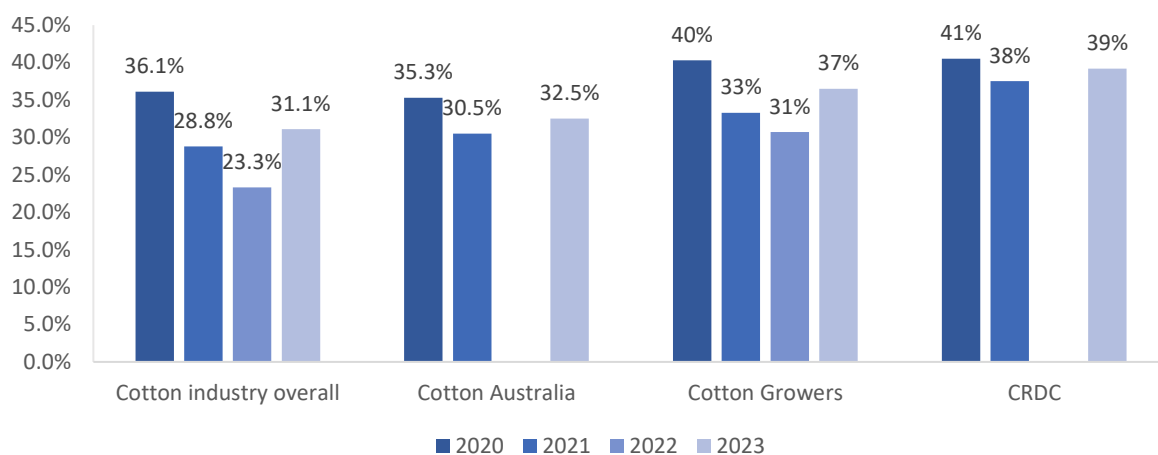


Figure 11. Ratings of trust in the Australian Cotton industry 2020-2023.

This year, there is a notable community emphasis on governance and relational aspects of trust. This presents an opportunity for the Australian cotton industry to enhance its performance in these areas, especially considering the easing concerns about water. However, it's worth noting a considerable number of neutral responses on various responsibility-related measures. Despite this, there is an opportunity for the Australian cotton industry to capitalise on the positive shifts and take strategic actions in critical risk areas. Importantly, the community strongly supports the industry's willingness to address and take ownership of its challenges.

The relevance of the House of Cotton, introduced in 2020 (Figure 12), persists today. Utilising the guidance from our initial trust modelling can aid in prioritising issues and using trust and acceptance as effective tools. This strategic approach will assist the cotton industry in tackling significant upcoming challenges, such as ethical supply chains. Simultaneously, it provides an avenue to communicate with the broader community about the industry's positive efforts in reducing water usage and strengthening regulations in this domain. Specifically, the cotton industry should consider the following:

Separate Industry Practices from Broader Environmental Challenges:

There is an ongoing need to differentiate the practices of the cotton industry from broader environmental challenges, such as drought and water scarcity. By presenting industry practices in a way that highlights their sustainability and management, it becomes easier to shift community perception towards recognising the proactive steps taken by the industry. Highlighting improvements in water use efficiency, independent of external factors like drought, may support a more nuanced understanding of the industry's role in sustainable farming.

Strengthen Accountability and Build Public Confidence:

As expectations for transparency grow, clearly communicating efforts around accountability becomes increasingly important. Demonstrating ongoing compliance with water regulations and governance standards will contribute to building greater confidence within the community. Implementing a framework that provides clarity around these actions, alongside sharing case studies of successful compliance, may foster a stronger sense of trust and accountability across the sector.

Share Responsibility for Labor Practices:

Labour practices, particularly in global supply chains, continue to attract attention. Emphasising shared responsibility for upholding ethical standards, both within Australia and internationally, is crucial in addressing potential risks. Collaborative efforts with certification bodies and stakeholders could further strengthen industry resilience in this area, while transparent communication around labour practices may mitigate future challenges and enhance community understanding.

Strategic Planning for Difficult Periods:

The ability to respond flexibly to future challenges is essential for the long-term sustainability of the cotton industry. By leveraging insights from longitudinal research, the sector can better prepare for periods of stress, such as droughts, and adjust both operational and communication strategies accordingly. Focusing on research and development in water conservation and climate resilience, alongside proactive stakeholder engagement, will help ensure the industry remains adaptable and future-ready. Engaging directly with stakeholders, including communities and policymakers, to ensure the industry remains aligned with broader societal goals during difficult periods.

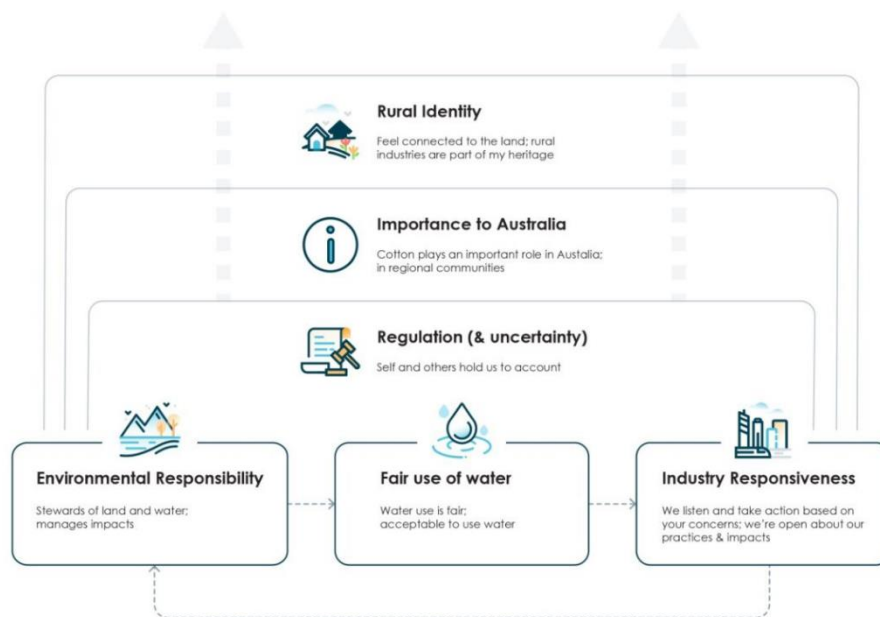


Figure 12. The house of cotton, key path model insights from 2020.



Contact

Dr Kieren Moffat

Voconiq CEO and Co-founder

info@voconiq.com