

## Telling our story: communicators' perceptions of challenges and solutions for sustainability communication within the Australian beef industry

---

Taylah Faulkner, Bradd Witt and Heather Bray

### Abstract

Sustainability communication has been an increasing focus globally for many diverse and complex resource-based industries, including beef production, due to an increase in public scrutiny. However, this has received limited research interest. This study, drawing on in-depth interviews, explores key internal and external stakeholders' perceptions of sustainability communication challenges using the Australian beef industry as a case study. Diverse views about public perceptions, the role of communications in trust, and internal issues reflect challenges such as industry culture, isolation, and industry complexity and breadth. This research highlights and discusses a range of sustainability communication issues in complex contexts.

### Keywords

Environmental communication; Risk communication

### DOI

<https://doi.org/10.22323/2.21060204>

*Submitted:* 21st February 2022

*Accepted:* 1st July 2022

*Published:* 19th October 2022

---

*"... if you're not communicating what you're doing and what you're... trying to do, people will assume you're doing nothing... We have to continue to tell that story, because I think there's a huge amount of information out there and it can very easily get lost in the wash."*

Interview 14

### Introduction

Many communication practitioners work within complex contexts such as climate change, vaccinations, and resource extraction where science-based calls for change are contested and deeply entangled with cultural, economic and political issues. Approaches to communication in these contexts where there are multiple stakeholders, competing values, diverse problem definitions, and different ideas about what counts as evidence require 'third order thinking' with "more critical reflection — and reflection-informed practice — about the relationship between technical change, institutional priorities and wider conceptions of social welfare and justice" [Irwin, 2021, p. 155].

Addressing sustainability within food and agriculture systems is challenging due to the complex interactions between social, economic, and environmental dimensions of the issue. Definitions of sustainability are inconsistent and often ambiguous [Dunlap, Beus, Howell & Waud, 1993; Hansen, 1996; Velten, Leventon, Jager & Newig, 2015; Food and Agriculture Organisation, 2017]. Agricultural sustainability has been defined in the context of either ideologies, a set of strategies, the ability to set goals, continued survival, community, food sufficiency, and pertaining to sustainable development [Food and Agriculture Organisation, 2017, p. 7]. Despite a lack of consensus, it is widely agreed that agricultural sustainability is important due to the magnitude of social and environmental impacts as the sector aims to meet the demands of a rapidly growing global population [Bradford, 1999; Kopittke, Menzies, Wang, McKenna & Lombi, 2019; Willett et al., 2019].

Agricultural industries globally are facing increasing public scrutiny driven by concern for sustainability, particularly the environmental and animal welfare dimensions of the meat producing industries [Boogaard, Oosting, Bock & Wiskerke, 2011; Witt et al., 2021]. There has also been an increase in the number of research papers and publications highlighting the impact of meat production including the well-publicised Livestock's Long Shadow report in 2006 and the Eat Lancet of 2019 [Steinfeld et al., 2006; Willett et al., 2019]. Although sometimes framed within the context of Social License to Operate (SLO) [Hampton, Jones & McGreevy, 2020], responding to this societal change is a broader challenge of two-way engagement with stakeholders and the public more widely [Witt et al., 2021]. As consumers can influence industry practice through their food choices [Grunert, 2011; Malek, Umberger & Goddard, 2019], sustainability communication is becoming a central focus of agricultural industries, but is equally relevant to a range of resource and environment based industries.

Although this paper focuses on communication within and about the Australian beef industry, we believe that the issues raised so far demonstrate that questions of communication both of and within complex contexts need urgent attention. We also note that there is little research that examines how communicators understand the challenges these contexts raise and deal with them in practice. As Irwin [2021] states, third order thinking involves "interrogating the operating assumptions and modes of thought on which individual initiatives depend and considering the practical and conceptual implications" [p. 155]. As such, this study explores the perceptions that communication professionals within the Australian beef industry have of sustainability communication in order to understand the challenges underpinning effective sustainability communication.

## *Background*

### *Communication*

In addition to varying definitions of sustainability, there are also varying definitions of communication, both internal and external. Internal communication refers to communication within an industry which targets its members, and external communication is directed outside the industry which aims to build relationships with the public and other stakeholders [Réka & Borza, 2012]. Though most agree that communication involves 'transferring', 'interaction', and 'sharing

with others' with a view to changing an audience's thoughts, feelings or behaviours [Genç, 2017], this external focus overlooks internal communication issues for sustainability [Levenshus & Lemon, 2017]. In addition, this one-way or 'sender-orientated' communication has been contrasted by Newig et al. [2013] to communication both *of* and *about* sustainability, which incorporate dialogue and discourse as part of a more participatory and horizontal approach. Also, information provision in the form of one-way communication is not enough to gain public or stakeholder trust [Meijboom, Visak & Brom, 2006; Grunert, 2011; Graham & Abrahamse, 2017], which is an important component in securing a public acceptance [Franks et al., 2014]. Internal communication is equally important and plays a vital role in the development and execution of sustainability strategies [Genç, 2017]. With effective internal communication, external communication is likely to improve [Dolphin, 2005; Chmielecki, 2015; Stevanović & Gmitrović, 2015]. External communication is important because community perceptions and trust in the beef industry drive its continued operation through consumption, investment, institutional responses, and government policy and regulation [Witt et al., 2021; Voconiq, 2021].

### Context: the Australian beef industry

Sustainability communication poses a significant challenge for the Australian beef industry which plays a major social and economic role in Australia [OECD & FAO, 2019]. Australian beef accounts for 4% of global production, and contributes 16% of global beef exports with Australia remaining one of the top 3 exporters globally [Meat & Livestock Australia, 2020b]. The beef industry's contribution to the Australian economy was over \$15 billion in 2020 [Meat & Livestock Australia, 2020a]. Over half of the Australian landscape is used for grazing and contributes to rural community viability and culture [Australian Bureau of Agricultural and Resource Economics and Sciences (ABARES), 2016]. Despite enjoying high levels of public trust [Voconiq, 2020, 2021; Witt et al., 2021], animal production has come under increasing scrutiny in Australia [Buddle, Bray & Ankeny, 2021]. Sometimes this is framed as a knowledge deficit, particularly with urban residents [Worsley, Wang & Ridley, 2015], and is assumed to reflect an increasingly urban Australian population which is separated geographically from food production areas [Witt, Witt, Carter & Gordon, 2009].

The Australian beef industry recognises the importance of community perceptions [Meat & Livestock Australia, 2016] and the development of sustainability strategies to initiate change within industry. For example, the Australian Beef Sustainability Framework [Australian Beef Sustainability Framework, 2017] aims to monitor and evaluate industry's progress towards sustainability based on environment, animal welfare, community and people, and the economy. To do this effectively, communication is required both within and from industry to ensure a cohesive understanding of what community expectations are, and subsequent plans of action.

### Research aims and questions

Agricultural industries globally are attempting to engage with evolving community expectations and public trust [de Souza et al., 2017]. However, these

attempts at engagement have had little scholarly attention. For example, over 50 communications campaigns either have, or are currently being developed, to promote Australian farmers [Knight, 2019]. These campaigns are funded by both industry organisations and the government to proactively engage the community on environmental and animal welfare issues with a view to reducing community concerns. Despite this investment, it is unclear at this stage whether these campaigns are effective. Hence, there appears to be an urgent need to critically evaluate the communication efforts of the beef industry in relation to sustainability. The aim of this research is to explore, within the beef industry in Australia, communication professionals' perceptions of:

- sustainability issues and challenges, and
- communication as a key component of the sustainability agenda(s).

## Methods

### *Methodology*

This study draws on in-depth qualitative interviews with internal and external industry communications experts to help clarify and understand the nature of these communication challenges. Qualitative research is particularly useful for addressing sustainability communication issues, as it provides in-depth insight into the challenges within a social context, particularly where there is limited existing empirical research [Hicks et al., 2016; Moon et al., 2019; Rahman, 2017]. Additionally, it is useful in determining the *where, how, when, and why* in social contexts of environmental issues, as '*it takes a human to understand one*' [Moon et al., 2019, p. 5]. This study takes an approach grounded in social constructivism, in which researchers aim to uncover the subjective meaning that individuals have of their experiences [Creswell, 2013]. This can also be known as an interpretivist perspective, which indicates "a focus on how the social world is interpreted by those in it" [Robson & McCartan, 2016, p. 24]. This approach was used to understand the issues and positions from a participant's perspective. Due to the exploratory nature of this study and the aim to understand participant perceptions, the study was not based on any predetermined definition of sustainability and instead was driven by participant ideas and voices.

Thematic coding analysis is used as part of the constructivist approach to the data, which uses a series of codes to categorise the same theoretical or descriptive idea [Robson & McCartan, 2016]. Although it is important to minimise the unavoidable element of researcher perspective in qualitative analysis, the subjectiveness of qualitative analysis can bring unique value to the research process [Moon et al., 2019].

### *Participant recruitment*

Twenty-seven communications experts for industry (19 female, 8 male) participated in this research. Participants were purposively sampled based on two criteria:

1. Experience designing, building, developing or otherwise being involved in communication within the Australian beef industry, both internally and externally to the community and other stakeholders.

2. People with significant decision-making or executive roles that may be involved in the approval of communication strategies in the Australian beef industry.

Participants were also required to reflect a diverse range of activities within the industry in order to identify different perspectives. Initial participants were identified by the researchers, in addition to using internet searches for relevant organisations, representatives, and employment titles. These people were then contacted via email using publicly available contact information. Snowballing was the primary process for recruiting further participants.

Semi-structured interviews (see Table 1) occurred between November 2019 and March 2020 and focused on how experts understood the challenges and

**Table 1.** Interview guide for semi-structured interviews noting that order and depth varied according to the flow of interview.

- 
1. How have you been involved with communication in the Australian beef industry specifically?
  2. Sustainability has been outlined as a key issue for the Australian beef industry. What does sustainability of the industry mean to you personally?
    - a. How have you come to that standing?
  3. I'm going to ask some questions about how the beef industry communicates, but before I do I'd like to explore the idea of the 'beef industry':
    - a. When I talk about the beef industry, who are you thinking of (e.g. production, supply chain, etc.)?
    - b. Could you tell me a bit about how you understand the industry and who communicates in the industry?
      - i. Prompt: Who do you think communicates? Who communicates to whom? Who do you think is responsible for public communication and engagement?
    - c. What do you think communication in the Australian beef industry looks like?
    - d. Would you consider yourself part of the Australian beef industry? Why/why not?
  4. Of all the challenges faced by the Australian beef industry, how important do you think communications to do with sustainability are for the Australian beef industry?
  5. Who do you think current communication approaches by the Australian beef industry are targeting?
  6. What do you think communication efforts are trying to achieve?
  7. What would you define as 'effective communication' in the context of sustainability in the Australian beef industry?
  8. Do you think current communication approaches for sustainability used by the Australian beef industry are effective?
    - a. Can you think of an example of effective and ineffective communication in this context?
  9. What do you think the role of communication is, both in terms of internal and external stakeholders, in achieving sustainability in the Australian beef industry?
  10. What do you think have been the challenges within industry in trying to communicate effectively on sustainability?
  11. Do you think your views are typical of the broader industry? Why/why not?
-

opportunities related to internal and external sustainability communication in the Australian beef industry.

All interviews were digitally recorded and transcribed using NVivo Transcription, and later checked for accuracy. Participants were given the opportunity to check their transcription for accuracy if they wished.

### *Analysis and coding*

Interview transcripts were analysed and coded based on Robson and McCartan [2016], which provides insight into how to gather, analyse and interpret qualitative data. A combination of thematic coding analysis and grounded theory was used to analyse the interview transcripts. Thematic coding analysis is used as part of the constructivist approach to the data, which uses a series of codes to categorise the same theoretical or descriptive idea [Robson & McCartan, 2016]. Though themes are often associated with theoretical frameworks, in this research the thematic coding analysis was used more generally in accordance with the exploratory nature of the research. Grounded theory aims to identify a theory, derived from the data, to explain the patterns within the dataset. The combination of both thematic coding analysis and grounded theory involved first being immersed in the data with no preconceived ideas about the issue (grounded theory), in order to let participant voices drive an understanding of the key ideas. This was followed by identifying literature which resonated with what was found in the analysis (thematic analysis). All analysis for this study was carried out using NVivo 12 Pro.

Interpretation of the data occurred via the development of a thematic network. This network allowed for an exploration of relationships within and across the themes, in order to understand patterns and trends within the data. In doing this, a narrative of the data was able to be presented, underpinned by the use of clear and representative examples [Braun & Clarke, 2006]. Overall interpretation of the data aimed to remain sensitive to the narrative of the participants [Braun & Clarke, 2006]. Coding was primarily undertaken by one of the authors with rigorous rounds of checking to ensure consistency by all of the authors. This involved the first author analysing the interview transcripts as described above, with regular discussions with all authors to check for agreement in the coding and making updates to the codebook as necessary.

## **Results and discussion**

The interviews for this study revealed complex perceptions of opportunities and challenges related to sustainability communication with the broader public as well as within the industry. Internal and external communication challenges are presented separately, followed by an integrated discussion of the overarching themes related to sustainability communication challenges and opportunities for the Australian beef industry.

### *Communication challenges*

Participants identified both internal and external challenges to effective communication. Tables 2 and 3 show the range of themes identified under the broad headings of internal and external communication challenges for the industry.

They are presented with the definition of each theme and a selection of indicative quotations. It is important to note that the quotations cannot cover the entire breadth of responses that fell under each code.

### Internal communications challenges

Internal industry challenges to communication (Table 2) range across issues such as the diversity and scale of the industry, internal governance and structure, as well as a range of economic and financial challenges that the industry faces. This also includes the challenge of where industry begins and ends. The Australian beef industry was defined by participants in several ways, spanning from ‘paddock to plate’ to ‘only producers’. About a third of participants described the beef industry as the producer and supply chain, though it was not always clear what participants considered the ‘supply chain’.

**Table 2.** Internal challenges to effective communication as perceived by interview participants.

<i>Theme</i>	<i>Definition</i>	<i>Example quotations</i>
Industry culture	The attitudes and behaviours of those within industry that are perceived to reflect underlying values and attitudinal and behavioural norms of the industry (e.g., defensiveness and denial; a siege or victim mentality; and parts of industry being in a ‘bubble’).	<p>“It’s just not good enough anymore to be, to say ‘what would you know community, you’ve never kept cattle, you’ve never kept sheep.’” (Interview 13)</p> <p>“They’ve tried to instil a really strong level of support amongst rural people that the industry is under attack by government. And what are we [urban community]? Left, inner-city, woke, latte sippers? ... they’ve created that divide in order to help create this mentality, that we [urban community and outsiders] need to change.” (Interview 20)</p> <p>“Internally we need our industry to understand that accountability is becoming more and more important... People still think there’s a ‘them and us’, people still think that everybody else is a dickhead and they’re [industry] doing everything right. ... I think communication needs to tell our industry that in order to have a sustainable industry they need to be accountable.” (Interview 19)</p> <p>“They mix with each other, and socialise with each other and marry each other. And so there’s not really much of a chance then to get an alternative opinion. ... But I see the northern cattle industry, the majority of them are in this little bubble and they can often feel besieged.” (Interview 15)</p>
Industry image	Difficulties associated with communicating and portraying a single industry image to the external community.	<p>“I think that human touch is what builds trust. And I think if you drop that, you really run the risk of being seen as a big, bad, faceless industry and you just lose that human touch, which is so emotive, and we know works for consumers/community.” (Interview 23)</p> <p>“We still have a great soft spot for the mum and dad farmer whether they’re being flooded or in drought or getting burnt out... I think a lot of people... might still have that sort of romantic imagined connection back to the bush... Most of them in today’s age aren’t battling in their business, they’re all pretty savvy, but we’ve still got this romantic attachment to that.” (Interview 6)</p>

*Continued on the next page.*

**Table 2.** *Continued from the previous page.*

<i>Theme</i>	<i>Definition</i>	<i>Example quotations</i>
The perpetuation of industry stereotypes in the media	The perception that mass media portrays or frames the beef industry negatively to urban audiences, driving perceived negative public perceptions of industry or a lack of trust.	<p>“But as a general rule, if you live in [capital cities] and you hear about agriculture, chances are you’re hearing about it on the news from a... live export disaster or from advertising from [interest or lobby groups] about how terrible the industry is... it’s very, very unlikely you’ll be hearing about agriculture from someone who actually is on the positive side of agriculture and extension.” (Interview 16)</p> <p>“We tend to be loudest or most widely received in the media when there’s a problem. And that’s true of most news, bad news sells better than good news, but it doesn’t seem to be countered. Even if you go to those organisations, news pages, doesn’t seem to be countered by good news. And that may be because playing the siege or victim mentality does work, especially in the advocacy world. But I think it does restrict our ability to then promote our farming industries and our cattle industry specifically as world leading, innovative, and attract investment and employment.” (Interview 20)</p>
Diversity and scale	The large scale and diversity of the industry, with variability across geography, sustainability challenges, attitudes, personality types, products, legislation, representative industry bodies and other areas.	<p>“... I think you can find everything from people that have no interest in sustainability whatsoever all the way through to people that we already know are not just carbon neutral, but they’re selling carbon back into the system. So, you know, we have the most massively progressive and then we have those that are resisting change. And I think that you’ll find that broad spectrum in any industry.” (Interview 3)</p> <p>“But there’s evidence... to show that, you know, 80 percent of our industry is of a certain personality type and I can tell you now, those 80 percent, they’re doing things the way they’ve always done it.” (Interview 19)</p> <p>“We’ve got all these different bodies... And so there’s huge confusion about who does what. There’s a huge disconnect. We all should be on the one bandwagon together singing from the same hymn book.” (Interview 14)</p>
Disconnections within industry	A lack of clarity on communication roles and responsibilities, in addition to the complexity of the governance and representative bodies, and the perceived impact of this on the consistency of sustainability communication to external audiences.	<p>“If we can’t get our shit together as an industry and come up with some common themes and messages, how the hell is the public supposed to trust us? When all they see is us fighting between each other, going no we’re right, no we’re right, you can’t do that.” (Interview 12)</p>

*Continued on the next page.*



**Table 2.** *Continued from the previous page.*

<i>Theme</i>	<i>Definition</i>	<i>Example quotations</i>
Economic and financial challenges	A lack of resources as a barrier to develop effective communication strategies.	“You know, it’s one of those things where, again, coming back to live exports there were some figures put out last year that I think it was Animals Australia had raised nine million dollars in donations in the past twelve months and they had spent four million [approx. \$US 2.8 million] of that on anti-live export campaigns. There’s no way that the industry can compete with that sort of stuff.” (Interview 22)

In addition, there were also themes associated with the industry’s image to both stakeholders and the broader community, and a perceived perpetuation of industry stereotypes. Several participants had a lot to say about the role of industry culture and its effect on communication challenges. These insights were both critical and supportive of the norms and values associated with the industry. To some extent these themes around industry culture and industry image connected to the perceived external challenges covered in Table 3.

**Table 3.** External challenges to effective communication as perceived by interview participants.

<i>Theme</i>	<i>Definition</i>	<i>Example quotations</i>
Industry understanding of external perceptions	An internal heightened sense of negative public perceptions driven by perceived misinformation in the media, that may not reflect true public sentiment.	But it’s becoming increasingly important that they address those issues because of the pressures from vegans, vegetarians and people who take American statistics on water use, and apply it to our industry, which is very different. (Interview 15)
Trust	A perceived decline in or lack of public trust in the beef industry and producers. Additionally, gaining producer trust for internal sustainability communications to achieve practice change.	... one of the biggest threats is the fact that as an industry, we’re not adapting to consumer preferences and challenges and environmental challenges fast enough... If we don’t address them fast enough, then that industry trust and viability will start to fade away over time. (Interview 20) I think communications have an important role to play in reassuring producers... that they remain trusted and respected for the work they do, the product they raise and know why they care for their land... Some producers are perhaps not feeling as though the work they do is valued or perhaps they’ve lost, there’s been an erosion of confidence or trust by the community. (Interview 8)

*Continued on the next page.*

**Table 3.** *Continued from the previous page.*

<i>Theme</i>	<i>Definition</i>	<i>Example quotations</i>
Media	Perceived difficulties in pitching positive news stories about industry to the media to counter sensationalised, negative, or inaccurate coverage of industry, and the impact of this on public trust in industry. Additionally, the perceived use of media platforms by activists to influence regulation intended to shut industry down.	<p>... the hard thing is that you do the right thing for 100 years and nobody cares. And it's not newsworthy. But then, you know, one thing happens that you chop down a tree that you weren't supposed to or whatever, and that hits the headlines and everybody's like oh look how horrible farmers are. So that was also a perennial problem, that business as usual and doing the right thing is not newsworthy. (Interview 22)</p> <p>You cannot open a news site anywhere these days without seeing references to just basically how terrible meat is for the planet. . . If you lose consumers, lose consumer support, then there is no industry. . . So the industry absolutely needs to demonstrate what it's doing to make them understand, well to help them understand that the beef industry is actually doing the right thing. (Interview 16)</p> <p>For example, animal rights activists or the RSPCA in terms of animal welfare standards. . . They don't often make that declaration that they want to see the end of the industry. And so therefore, they're pushing for an increase in red or green tape, whatever to again, make it harder for producers to maintain their economic sustainability. (Interview 11)</p>

### External communication challenges

The focus of external challenges identified by the participants revolved around public and stakeholder perceptions or the way industry understands these external views. The themes here related to media, consumer and public trust, and external perceptions, highlight that for many in the industry there is a sensitivity or concern around the role of external perceptions. Media portrayal and broader trust in the industry's attempts at sustainability are a key concern. For many participants, there was a level of concern and occasionally exasperation in the way they feel the media, and particularly the urban media, portray their industry with an excessive focus on negative events which feeds into a negative stereotype. Despite this, there is also a clear recognition of the importance of external communication for industry's sustainability.

### *Emergent and overarching themes affecting industry engagement with sustainability and communication*

Three overarching themes emerged from the analysis which were seen to underpin the sustainability communication challenges for the Australian beef industry both internally and externally. First, a significant barrier to effective sustainability communication was perceived to be the multidimensionality of sustainability itself. Second, a series of challenges were identified which were seen to drive a lack of unified understanding of communication issues and how to address these. And third, two competing narratives appear to underpin tensions between either an internal or external focus on sustainability communication. These three emergent themes are discussed in turn below.

## Multidimensionality of sustainability

Participants acknowledged that sustainability could be interpreted in multiple ways.

*Everybody's got a different interpretation of a word, so sustainability in itself, do we have an idea of what that looks like as an industry and if we don't, then I think it's really difficult to find out how we sell our messaging if we don't actually know ourselves and if we don't have a united front, to do it. (Interview 12)*

As their interview progressed the way some participants framed, discussed, and interpreted sustainability developed and evolved. Three broad areas were readily identified: business viability and industry continuity; resource or environmental management; and a more traditional 'sustainable development' focus on the triple bottom line or 'three pillars' (i.e. economic, ethical (or social) and environmental dimensions) [Purvis, Mao & Robinson, 2019].

*Well, for me it [sustainability] means producing food in a way that we can do on an ongoing basis. (Interview 13, industry viability)*

*I guess sustainability is quite sort of intrinsically linked to environmental sustainability more than anything, I think. I think most people's definition of sustainability is probably linked to environment. (Interview 16, environmental management)*

*But if I bring it back to sustainability for actual producers, for me it's environmental and financial and community sustainability. (Interview 18, triple bottom line)*

Some orientations also included ethics, and others a combination of the broader ideas. Sustainability was most frequently discussed as on-farm sustainability, rather than throughout the supply chain.

Business and industry sustainability was sometimes referred to in terms of community support, implied through discussion of the importance of public perceptions, and potential repercussions for industry should trust be lost.

*I think sustainability for the industry is about having continual community trust... At the same time, I feel like it's about making sure that everyone throughout the supply chain is profitable, that they're able to continue their business and make a living from it and make a bit of money from it. But at the same time, the industry and especially the cattle industry, is always working on continual improvement of animal welfare and animal handling practices, and animal husbandry practices to ensure that they meet community expectations. (Interview 17)*

Orientations of sustainability were fluid throughout the interviews, depending on the topic of conversation. For example, a participant that defined sustainability in the context of business or industry viability would later discuss environmental issues. This is consistent with research that has found that definitions of sustainability differ between people and geographical contexts [Boogaard, Oosting & Bock, 2008; Schiano & Drake, 2021], as factors influencing sustainability (such as climate and the physical environment, markets etc.) vary across Australia.

## Impediments to strategic and unified industry communications

We identified three key issues from interviews that in isolation, and collectively impede individual businesses, and the industry to effectively engage with sustainability communications challenges. These three issues include: a lack of shared understanding of sustainability and communication challenges; difficulties articulating what effective communication in this space would look like; and perceived issues and confusion associated with a large number of diverse voices and messages. These perceived impediments are discussed in sequence below.

A universally shared understanding of the communication challenges around beef sustainability appears to be lacking. There were also a variety of perceptions about the goals of industry communication *of* or *about* sustainability. There was a distinction between those who tended to discuss communication *of* sustainability in contrast to those who talked of communication *about* sustainability, as per the distinction made by Newig et al. [2013]. Communication *of* sustainability primarily involves one-way communication aiming to persuade the audience, and communication *about* sustainability incorporates dialogue and discourse. Participants talking about sustainability in terms of business and industry viability tended to discuss communication *of* sustainability, rather than *about* sustainability. For example, they would tend to either talk about internal communication to facilitate practice change, or external communication for market access. Participants talking with a focus on environment and natural resources tended to discuss communication *about* sustainability (i.e. externally to inform consumers and the public about sustainability initiatives). Since these orientations were fluid, participants often spoke interchangeably about communication both *of* and *about* sustainability.

Although participants have diverse experience with communication, a consistent view on what constitutes effective sustainability communication was elusive. Often there were limited examples of effective communication, rather, the focus was often on what was ineffective (see Table 2). Although participants spoke about both internal and external communication there was little overlap in these two broad dimensions. Rarely was there explicit focus on goals, target audiences, approaches to engaging those audiences, or any intended outcomes expected from communication. However, internal communication was generally aimed at producers to achieve practice change, whereas external communication appeared more about public attitudes. Importantly, when discussing effective communication, the focus from participants spanned from the theme of “telling our story” through to greater transparency and action on sustainability as discussed further below. This diversity of views reflects quite different perspectives on the nature of communication challenges and opportunities for the industry.

There are a multitude of industry bodies communicating both internally and externally and this is seen by many participants to cause confusion and a ‘noisy’ communication environment. Some participants expressed that the number of voices can be damaging, particularly when communicating internally, as farmers are likely to become overwhelmed with the many messages and overload of information. It is unclear which industry bodies are responsible for communication, either internally or externally, though Meat and Livestock Australia was often discussed by participants as having a primary responsibility

due to the available funding and resources for the organisation to communicate. However, this 'convoluted' structure has begun to be addressed by industry, through the release of the red meat industry white paper [Red Meat Advisory Council, 2019a], which has documented the process for restructuring the industry.

### Competing narratives

The tension between the internal and external focus on sustainability communication is reflected in a narrative spectrum, ranging from 'telling our story' through to 'demonstrating sustainability' which is discussed in more detail below. To simplify these two narratives, the *telling our story* orientation tends to focus on a view that overall sustainability within the beef industry is acceptable and that efforts in communication should largely be about informing the community about this 'good news story'. This is not necessarily surprising as sustainability communication more generally has tended to focus on the external, unidirectional communication of sustainability issues [Newig et al., 2013]. On the other hand, the *demonstrating sustainability* narrative highlights the importance for industry to ensure practices are acceptable and adapting to community expectations before attempting to engage in external communication.

Although these are described here as two narratives, it is important to acknowledge that this is a spectrum of perceptions where there is a little of both narratives presented through most of the participants. Few participants fell entirely into only one of these broad narratives. However, this spectrum again highlights the need to consider the implications for internal communications around practice change and external scrutiny.

### Communication to acknowledge and demonstrate sustainability credentials

The diverse geography, legislation, markets, management, and sustainability issues pose challenges not only in portraying an accurate image of industry in its public communication, but also in implementing industry-wide initiatives to support and encourage sustainable practice change. A significant challenge to effective communication, both internally and to the public, is industry's ability to maintain, achieve and demonstrate sustainability performance. This was particularly discussed in terms of environmental performance.

As discussed by Marshall [2010] and Marshall, Taylor, Heyenga and Butler [2018], our participants perceived financial pressures and costs of production, and natural disasters such as drought, as major barriers to on-farm uptake or maintenance of sustainable practices.

The impact of extremes of weather and climate on industry was seen as a significant challenge. For example, protracted drought makes it difficult for producers to implement sustainable practice change, and thus they cannot communicate truthfully and effectively on sustainability. In addition, extreme drought can create short term environmental changes that mask long term trends. During these periods social dimensions of sustainability were highlighted by some participants.

*Well, I guess it depends on if your impression of the word sustainability is really environmental or economic or social, or even cultural because I think at this rate, if it doesn't rain for another couple of years, I think culturally we're going to have a really tough time. (Interview 10)*

Some participants talked about the importance of being financially sustainable and profitable to achieve other elements of sustainability. As producers are running businesses, their financial position is critical due to the link between financial pressure and a willingness to adopt sustainable practices on farm.

*The frightening number of Australian farms or properties that aren't financially sustainable... But when you've got that financial stress on you, it becomes very difficult to act in a long-term rational way. (Interview 2)*

In addition, the dominance of export markets for Australian beef was seen to expose producers to international competition with many countries that have lower costs of production and levels of environmental protection.

Communicating about sustainability to the public requires demonstrated sustainability action, and internal communication about improving sustainability may not resonate with farmers struggling with finances or the physical impacts of climate.

#### *"Telling our story" as a response and a solution*

A unifying feature of many of the themes identified as internal and external challenges above is that, for many of the participants, it was explicitly or implicitly linked to a perceived solution to some of the industry challenges which was coded as 'telling our story'. It was suggested by some that industry is performing well in terms of sustainability, and that this 'story' just needed to be communicated to the public through the media. Connected with this view was the assumption that this would maintain trust, or at the very least, counter negative information. This further implies a perceived lack of, or declining community trust and negative perceptions of industry.

*... if you're not communicating what you're doing and what you're... trying to do, people will assume you're doing nothing. I think it's really important that we continue communication in a really regular and targeted way to prove that we are clean and green and... we are promoting our farms and how sustainable they are both in terms of the environment and welfare... We have to continue to tell that story, because I think there's a huge amount of information out there and it can very easily get lost in the wash. (Interview 14)*

In contrast, some participants believed that being transparent and taking accountability and ownership of issues was more appropriate to gain public trust. One participant discussed honesty as a sign of respect is important for relationship building. Other participants thought that taking accountability and acknowledging imperfections is vital for public trust, though it would be difficult due to some attitudes within the industry that resist scrutiny as discussed earlier.

### Assumed or perceived loss of public trust in industry

Participants discussing external communication often indicated that communication to the public about sustainability aimed to avoid regulation or to enable continued production for the future viability of the industry. These perceptions were based on the idea that external communication on sustainability actions was necessary to foster public trust, which indicates a view that industry has lost, or is losing some level of public trust. There was no explicit discussion of why trust is seen as important, though in some cases trust was viewed as an instrument to reduce societal oversight. Although this type of commentary is sometimes framed within the Social Licence to Operate (SLO) language, a broader view of engagement with societal change is warranted and research suggests that high levels of public trust in industry does not necessarily translate into a reduced desire for societal oversight [Witt et al., 2021]. Furthermore, there is no research to suggest that there has been a decline in public trust for industry, rather farmers are one of the most trusted professions in Australia [Witt, Witt, Carter & Beeton, 2007; Witt et al., 2009; Henderson, Coveney, Ward & Taylor, 2011; Ward, Henderson, Coveney & Meyer, 2012; Berry, Botterill, Cockfield & Ding, 2016; Voconiq, 2021].

### Perception of negative media coverage of industry

It may be that, for some in the industry, there is a lingering perception that public attitudes are being unnecessarily misinformed through mainstream and social media. Participants raised concerns about the potential for negative media to highlight inconsistencies within industry to portray a negative image of industry to the public. Several participants were concerned about the image being portrayed by some industry sources such as the 'technologically savvy' young farmers, while simultaneously projecting a stereotypical 'mum and dad' farmer. This sentiment was captured in the data coded to industry image, the perpetuation of industry stereotypes in the media, industry understanding of external perceptions, and media more broadly (Tables 2 and 3).

There is no research to date which explores how the media portrays the image of the beef industry to the Australian public. The view that the public are being misinformed is likely to contribute to a resistance or lack of acceptance of the need for practice change within the industry. In addition, there are some who consider that much of the media coverage of animal agriculture is negative, which may or may not be true (e.g. Buddle and Bray [2019], though this focused on the framing of animal welfare issues specifically). Indeed, this view may be a case of confirmation bias where, if some people feel besieged, they have a heightened receptivity to negative news. This suggests that many within industry hold a potentially skewed view that mainstream media predominantly represents industry negatively.

Participants thought that industry communication to the public has been quite reactive, usually in response to negative media attention (for example, during the 2011 live cattle export ban because of public concern for animal welfare [Munro, 2015]). Anti-animal agriculture activists are also seen as a threat to industry's image, particularly due to the emotive nature of their public communication and the perceived abundance of resources and funding as compared to entities and organisations within the beef industry [Buddle et al., 2021].

## Perceived need for a deficit model communications approach

A perceived means of regaining or maintaining trust, or to provide information to correct misinformation which may have contributed to perceived negative public attitudes towards industry, was to 'tell our story'. Story-telling is of interest to communicators [Cormick, 2019] as a way of moving away from an approach grounded in rationalist ideas of providing 'facts' to address a knowledge deficit. However, we argue that because this response is still grounded in a perception that the 'public' is ignorant of the 'real truth' and that once they possess it they will support the beef industry, it is still suggestive of the deficit model of communication [Ahteensuu, 2012; Simis, Madden, Cacciatore & Yeo, 2016]. This has since been shown to be an ineffective means of encouraging behaviour change which does not necessarily lead to an increase in trust or decreased scrutiny [Gustafson & Rice, 2016; Bray & Ankeny, 2017; Metcalfe, 2019]. This is similar to the discourse related to the genetic modification of organisms (GMO) debate, where research has indicated that there has been a transition from an aim to correct a deficit of knowledge to correcting a deficit of trust [Irwin, 2006]. The beef industry has since begun to transition from this deficit model of communication to the development of frameworks focusing on the importance of effective communication and engagement with the public and consumers [Australian Beef Sustainability Framework, 2017; Red Meat Advisory Council, 2019b].

## Industry culture and its influence on the perceived communications challenges

The complex nature of the communication challenge, regarding sustainability, appears to be, at least partly, shaped and filtered by internal cultures of industry. Many elements of culture were identified by participants as a challenge to communicating effectively for and about sustainability. Based on the analysis, it may be difficult for some people in the industry to accept external scrutiny of their intentions and practices because they hold agrarian worldviews. Agrarianism relates to the idea that farmers and their communities possess a particular set of virtues that sets them apart from urban people and is commonly found in more traditional thinking about the role of agriculture in society in countries like Australia [Craig & Phillips, 1983; Brett, 2007; Peel, Berry, Botterill & Cockfield, 2021]. Participants in this study indicated that some people feel that their industry is 'under attack'. This research suggests that potentially negative and hostile views of public attitudes towards the industry may unnecessarily perpetuate an 'us versus them' outlook. In addition, previous research has found that there are several personality traits that enable farmers to live in harsh and isolated environments [Bohnet, Roberts, Harding & Haug, 2011; Guillem, Barnes, Rounsevell & Renwick, 2012; Daloğlu, Nassauer, Riolo & Scavia, 2014]. However, these traits, including stoic individualism, also appear to underpin some aspects of a culture identified in this research [Shrapnel & Davie, 2001]. These characteristics may make people less inclined to accept external scrutiny and criticism. Clearly this would be a challenge for industry as it attempts to engage with evolving community expectations and attitudes around sustainability [Bryant & Garnham, 2015].



## Conclusions

The Australian beef industry is a large, diverse and complex industry. Although this industry has been highly resilient to market and climatic changes, until recently it has not had to explicitly engage with significant evolving social expectations and perceptions. Recent changes in this space have to some extent caught industry relatively under-prepared. Given the speed of social change over the past two decades, it is not surprising that this study highlighted a diversity and range of views about the nature of sustainability communication challenges for the industry. However, there is consensus within industry based on this study that sustainability is crucial. There is also agreement that communication of and about sustainability is essential for future industry viability. This challenge is still relatively novel to industry, and the structures of the industry that have existed until recently have tended to be designed for issues that have affected it in the past, rather than contemporary issues of social change.

For some communication practitioners the sustainability communication challenges are framed as, or assumed to be, primarily external in nature (i.e. communicating with public, consumers, and external stakeholders). For these people, the “telling our story” narrative is seen as a way to counter ‘attacks’ by anti-animal agriculture activism, build trust in industry to reduce regulatory oversight, and to balance the perceived negative media bias against industry. Although this is a strongly held view, it is not possible to determine via this research if this is a widely held position. In contrast, demonstrating sustainability and ensuring transparency and accountability is seen as equally important by many of the participants in this study. However, the research highlights that there are also several internal communications challenges around assumptions about the nature of sustainability, public and consumer expectations and perceptions, and the role of various industry bodies and organisations in dealing with these challenges. There are diverse perceptions about industry’s sustainability performance, and this work highlights opportunities to further improve dialogue within industry so that it is better placed to deal with external communication.

This research highlights the complexity of the communication challenges in contexts where there are diverse stakeholders with views that are deeply entangled with cultural, economic, and social values. Our research has highlighted a lack of consensus among communication professionals on the key purposes, audiences, and messages required to both make industry more sustainable through practice change and to communicate about sustainable industry practice to the community. The dominance of the “telling our story” narrative as a communication solution suggests a perception that the non-farming community in Australia possess both a deficit of knowledge *about* and a deficit of trust *in* the beef industry’s ability to produce meat sustainably. It is therefore important to understand the source of these perceptions as part of “interrogating operating assumptions” [Irwin, 2021, p. 155] and to encourage more reflexive and engaged communication practices within the beef industry. More broadly our work demonstrates the value of exploring the perceptions of communication professionals working within complex contexts in order to develop more reflection-informed and evidence-based communication practices.

## Funding

This study was funded by Meat & Livestock Australia.

## References

- Ahteensuu, M. (2012). Assumptions of the deficit model type of thinking: ignorance, attitudes, and science communication in the debate on genetic engineering in agriculture. *Journal of Agricultural and Environmental Ethics* 25 (3), 295–313. doi:10.1007/s10806-011-9311-9
- Australian Beef Sustainability Framework (2017). *2017 Framework report*. Australian Beef Sustainability Framework. Australia. Retrieved from <https://www.sustainableaustralianbeef.com.au/the-framework/>
- Australian Bureau of Agricultural and Resource Economics and Sciences (ABARES) (2016). *Land use of Australia 2010–11*. Australian Government, Department of Agriculture, Fisheries and Forestry. Retrieved from <https://www.agriculture.gov.au/abares/aclump/land-use/land-use-of-australia-2010-11>
- Berry, H. L., Botterill, L. C., Cockfield, G. & Ding, N. (2016). Identifying and measuring agrarian sentiment in regional Australia. *Agriculture and Human Values* 33 (4), 929–941. doi:10.1007/s10460-016-9684-5
- Bohnet, I. C., Roberts, B., Harding, E. & Haug, K. J. (2011). A typology of graziers to inform a more targeted approach for developing natural resource management policies and agricultural extension programs. *Land Use Policy* 28 (3), 629–637. doi:10.1016/j.landusepol.2010.12.003
- Boogaard, B. K., Oosting, S. J. & Bock, B. B. (2008). Defining sustainability as a socio-cultural concept: citizen panels visiting dairy farms in the Netherlands. *Livestock Science* 117 (1), 24–33. doi:10.1016/j.livsci.2007.11.004
- Boogaard, B. K., Oosting, S. J., Bock, B. B. & Wiskerke, J. S. C. (2011). The sociocultural sustainability of livestock farming: an inquiry into social perceptions of dairy farming. *Animal* 5 (9), 1458–1466. doi:10.1017/S1751731111000371
- Bradford, G. E. (1999). Contributions of animal agriculture to meeting global human food demand. *Livestock Production Science* 59 (2–3), 95–112. doi:10.1016/s0301-6226(99)00019-6
- Braun, V. & Clarke, V. (2006). Using thematic analysis in psychology. *Qualitative Research in Psychology* 3 (2), 77–101. doi:10.1191/1478088706qp063oa
- Bray, H. J. & Ankeny, R. A. (2017). Reframing GM communication: from deficit to discussion and engagement. *Farm Policy Journal* 14 (2), 33–41.
- Brett, J. (2007). The country, the city and the state in the Australian settlement. *Australian Journal of Political Science* 42 (1), 1–17. doi:10.1080/10361140601158518
- Bryant, L. & Garnham, B. (2015). The fallen hero: masculinity, shame and farmer suicide in Australia. *Gender, Place & Culture* 22 (1), 67–82. doi:10.1080/0966369x.2013.855628
- Buddle, E. A. & Bray, H. J. (2019). How farm animal welfare issues are framed in the Australian media. *Journal of Agricultural and Environmental Ethics* 32 (3), 357–376. doi:10.1007/s10806-019-09778-z
- Buddle, E. A., Bray, H. J. & Ankeny, R. A. (2021). “Of course we care!”: a qualitative exploration of Australian livestock producers’ understandings of farm animal welfare issues. *Journal of Rural Studies* 83, 50–59. doi:10.1016/j.jrurstud.2021.02.024
- Chmielecki, M. (2015). Factors influencing effectiveness of internal communication. *Management and Business Administration, Central Europe* 23 (2), 24–38. doi:10.7206/mba.ce.2084-3356.139

- Cornick, C. (2019). Who doesn't love a good story? — What neuroscience tells about how we respond to narratives. *JCOM* 18 (05), Y01. doi:[10.22323/2.18050401](https://doi.org/10.22323/2.18050401)
- Craig, R. A. & Phillips, K. J. (1983). Agrarian ideology in Australia and the United States. *Rural Sociology* 48 (3), 409–420.
- Creswell, J. W. (2013). *Qualitative inquiry & research design: choosing among five approaches* (3rd ed.). Thousand Oaks, CA, U.S.A.: SAGE Publications.
- Daloğlu, I., Nassauer, J. I., Riolo, R. L. & Scavia, D. (2014). Development of a farmer typology of agricultural conservation behavior in the American Corn Belt. *Agricultural Systems* 129, 93–102. doi:[10.1016/j.agsy.2014.05.007](https://doi.org/10.1016/j.agsy.2014.05.007)
- de Souza, D. M., Petre, R., Jackson, F., Hadarits, M., Pogue, S., Carlyle, C. N., ... McAllister, T. (2017). A review of sustainability enhancements in the beef value chain: state-of-the-art and recommendations for future improvements. *Animals* 7 (3), 26. doi:[10.3390/ani7030026](https://doi.org/10.3390/ani7030026)
- Dolphin, R. R. (2005). Internal communications: today's strategic imperative. *Journal of Marketing Communications* 11 (3), 171–190. doi:[10.1080/1352726042000315414](https://doi.org/10.1080/1352726042000315414)
- Dunlap, R. E., Beus, C. E., Howell, R. E. & Waud, J. (1993). What is sustainable agriculture? An empirical examination of faculty and farmer definitions. *Journal of Sustainable Agriculture* 3 (1), 5–41. doi:[10.1300/j064v03n01\\_03](https://doi.org/10.1300/j064v03n01_03)
- Food and Agriculture Organisation (2017). *A literature review on frameworks and methods for measuring and monitoring sustainable agriculture*. Retrieved from <http://www.fao.org/3/a-br906e.pdf>
- Franks, D. M., Davis, R., Bebbington, A. J., Ali, S. H., Kemp, D. & Scurrah, M. (2014). Conflict translates environmental and social risk into business costs. *Proceedings of the National Academy of Sciences* 111 (21), 7576–7581. doi:[10.1073/pnas.1405135111](https://doi.org/10.1073/pnas.1405135111)
- Genç, R. (2017). The importance of communication in sustainability & sustainable strategies. *Procedia Manufacturing* 8, 511–516. doi:[10.1016/j.promfg.2017.02.065](https://doi.org/10.1016/j.promfg.2017.02.065)
- Graham, T. & Abrahamse, W. (2017). Communicating the climate impacts of meat consumption: the effect of values and message framing. *Global Environmental Change* 44, 98–108. doi:[10.1016/j.gloenvcha.2017.03.004](https://doi.org/10.1016/j.gloenvcha.2017.03.004)
- Grunert, K. G. (2011). Sustainability in the food sector: a consumer behaviour perspective. *International Journal on Food System Dynamics* 2 (3), 207–218. doi:[10.18461/ijfsd.v2i3.232](https://doi.org/10.18461/ijfsd.v2i3.232)
- Guillem, E. E., Barnes, A. P., Rounsevell, M. D. A. & Renwick, A. (2012). Refining perception-based farmer typologies with the analysis of past census data. *Journal of Environmental Management* 110, 226–235. doi:[10.1016/j.jenvman.2012.06.020](https://doi.org/10.1016/j.jenvman.2012.06.020)
- Gustafson, A. & Rice, R. E. (2016). Cumulative advantage in sustainability communication: unintended implications of the knowledge deficit model. *Science Communication* 38 (6), 800–811. doi:[10.1177/1075547016674320](https://doi.org/10.1177/1075547016674320)
- Hampton, J. O., Jones, B. & McGreevy, P. D. (2020). Social license and animal welfare: developments from the past decade in Australia. *Animals* 10 (12), 2237. doi:[10.3390/ani10122237](https://doi.org/10.3390/ani10122237)
- Hansen, J. W. (1996). Is agricultural sustainability a useful concept? *Agricultural Systems* 50 (2), 117–143. doi:[10.1016/0308-521x\(95\)00011-s](https://doi.org/10.1016/0308-521x(95)00011-s)

- Henderson, J., Coveney, J., Ward, P. R. & Taylor, A. W. (2011). Farmers are the most trusted part of the Australian food chain: results from a national survey of consumers. *Australian and New Zealand Journal of Public Health* 35 (4), 319–324. doi:[10.1111/j.1753-6405.2011.00725.x](https://doi.org/10.1111/j.1753-6405.2011.00725.x)
- Hicks, C. C., Levine, A., Agrawal, A., Basurto, X., Breslow, S. J., Carothers, C., ... Levin, P. S. (2016). Engage key social concepts for sustainability. *Science* 352 (6281), 38–40. doi:[10.1126/science.aad4977](https://doi.org/10.1126/science.aad4977)
- Irwin, A. (2006). The politics of talk: coming to terms with the 'new' scientific governance. *Social Studies of Science* 36 (2), 299–320. doi:[10.1177/0306312706053350](https://doi.org/10.1177/0306312706053350)
- Irwin, A. (2021). Risk, science and public communication: third-order thinking about scientific culture. In M. Bucchi & B. Trench (Eds.), *Routledge handbook of public communication of science and technology* (3rd ed., pp. 147–162). doi:[10.4324/9781003039242](https://doi.org/10.4324/9781003039242)
- Knight, L. (2019, September 4). Farmer fightback: agriculture spending millions on trust campaigns. *The Weekly Times*.
- Kopittke, P. M., Menzies, N. W., Wang, P., McKenna, B. A. & Lombi, E. (2019). Soil and the intensification of agriculture for global food security. *Environment International* 132, 105078. doi:[10.1016/j.envint.2019.105078](https://doi.org/10.1016/j.envint.2019.105078)
- Levenshus, A. B. & Lemon, L. L. (2017). The minimized face of internal communication: an exploration of how public relations agency websites frame internal communication and its connection to social media. *Public Relations Journal* 11 (1). Retrieved from <http://prjournal.instituteforpr.org/wp-content/uploads/PR-Agencies-and-Internal-Comm-1-1.pdf>
- Malek, L., Umberger, W. & Goddard, E. (2019). Is anti-consumption driving meat consumption changes in Australia? *British Food Journal* 121 (1), 123–138. doi:[10.1108/bfj-03-2018-0183](https://doi.org/10.1108/bfj-03-2018-0183)
- Marshall, N. A. (2010). Understanding social resilience to climate variability in primary enterprises and industries. *Global Environmental Change* 20 (1), 36–43. doi:[10.1016/j.gloenvcha.2009.10.003](https://doi.org/10.1016/j.gloenvcha.2009.10.003)
- Marshall, N. A., Taylor, B. M., Heyenga, S. & Butler, D. (2018). Vulnerability of the livestock industry in eastern Australia. *Sustainability Science* 13 (2), 393–402. doi:[10.1007/s11625-017-0435-3](https://doi.org/10.1007/s11625-017-0435-3)
- Meat & Livestock Australia (2016). *Strategic plan 2016–2020*. Meat & Livestock Australia. North Sydney, Australia. Retrieved from [https://www.mla.com.au/globalassets/mla-corporate/about-mla/documents/who-we-are--corporate-governance/mla-strategic-plan\\_doc\\_2020\\_web.pdf](https://www.mla.com.au/globalassets/mla-corporate/about-mla/documents/who-we-are--corporate-governance/mla-strategic-plan_doc_2020_web.pdf)
- Meat & Livestock Australia (2020a). *Fast facts: Australia's beef industry*. Meat & Livestock Australia. North Sydney, Australia. Retrieved from <https://www.mla.com.au/globalassets/mla-corporate/prices--markets/documents/trends--analysis/fast-facts--maps/2020/mla-beef-fast-facts-2020.pdf>
- Meat & Livestock Australia (2020b). *Global snapshot: beef*. Meat & Livestock Australia. North Sydney, Australia. Retrieved from <https://www.mla.com.au/globalassets/mla-corporate/prices--markets/documents/os-markets/red-meat-market-snapshots/2020/global-beef-snapshot-jan2020.pdf>

- Meijboom, F. L. B., Visak, T. & Brom, F. W. A. (2006). From trust to trustworthiness: why information is not enough in the food sector. *Journal of Agricultural and Environmental Ethics* 19 (5), 427–442. doi:[10.1007/s10806-006-9000-2](https://doi.org/10.1007/s10806-006-9000-2)
- Metcalfe, J. (2019). Comparing science communication theory with practice: an assessment and critique using Australian data. *Public Understanding of Science* 28 (4), 382–400. doi:[10.1177/0963662518821022](https://doi.org/10.1177/0963662518821022)
- Moon, K., Blackman, D. A., Adams, V. M., Colvin, R. M., Davila, F., Evans, M. C., ... Wyborn, C. (2019). Expanding the role of social science in conservation through an engagement with philosophy, methodology, and methods. *Methods in Ecology and Evolution* 10 (3), 294–302. doi:[10.1111/2041-210x.13126](https://doi.org/10.1111/2041-210x.13126)
- Munro, L. (2015). The live animal export controversy in Australia: a moral crusade made for the mass media. *Social Movement Studies* 14 (2), 214–229. doi:[10.1080/14742837.2013.874524](https://doi.org/10.1080/14742837.2013.874524)
- Newig, J., Schulz, D., Fischer, D., Hetze, K., Laws, N., Lüdecke, G. & Rieckmann, M. (2013). Communication regarding sustainability: conceptual perspectives and exploration of societal subsystems. *Sustainability* 5 (7), 2976–2990. doi:[10.3390/su5072976](https://doi.org/10.3390/su5072976)
- OECD & FAO (2019). *OECD-FAO agricultural outlook (edition 2019)*. Organisation for Economic Cooperation, Development & Food and Agriculture Organisation of the United Nations. Retrieved from [https://stats.oecd.org/BrandedView.aspx?oecd\\_bv\\_id=agr-dataen&doi=eed409b4-en#](https://stats.oecd.org/BrandedView.aspx?oecd_bv_id=agr-dataen&doi=eed409b4-en#)
- Peel, D., Berry, H. L., Botterill, L. C. & Cockfield, G. (2021). Exploring domains of contemporary Australian agrarianism. *Journal of Sociology*. doi:[10.1177/14407833211044772](https://doi.org/10.1177/14407833211044772)
- Purvis, B., Mao, Y. & Robinson, D. (2019). Three pillars of sustainability: in search of conceptual origins. *Sustainability Science* 14 (3), 681–695. doi:[10.1007/s11625-018-0627-5](https://doi.org/10.1007/s11625-018-0627-5)
- Rahman, M. S. (2017). The advantages and disadvantages of using qualitative and quantitative approaches and methods in language “testing and assessment” research: a literature review. *Journal of Education and Learning* 6 (1), 102–112. doi:[10.5539/jel.v6n1p102](https://doi.org/10.5539/jel.v6n1p102)
- Red Meat Advisory Council (2019a). *A better red meat future: a white paper for the Red Meat Advisory Council*. Red Meat Advisory Council. Australia. Retrieved from [https://amic.org.au/wp-content/uploads/2019/07/Final\\_White-Paper.pdf](https://amic.org.au/wp-content/uploads/2019/07/Final_White-Paper.pdf)
- Red Meat Advisory Council (2019b). *Red Meat 2030: a shared vision and direction for Australia's red meat and livestock businesses*. Red Meat Advisory Council. Australia. Retrieved from <https://rmac.com.au/red-meat-2030/>
- Réka, K. & Borza, A. (2012). Internal and external communication within cultural organizations. *Management & Marketing* 7 (4), 613–630.
- Robson, C. & McCartan, K. (2016). *Real world research: a resource for users of social research methods in applied settings* (4th ed.). Chichester, U.K.: Wiley.
- Schiano, A. N. & Drake, M. A. (2021). Invited review: Sustainability: different perspectives, inherent conflict. *Journal of Dairy Science* 104 (11), 11386–11400. doi:[10.3168/jds.2021-20360](https://doi.org/10.3168/jds.2021-20360)
- Shrapnel, M. & Davie, J. (2001). The influence of personality in determining farmer responsiveness to risk. *The Journal of Agricultural Education and Extension* 7 (3), 167–178. doi:[10.1080/13892240108438818](https://doi.org/10.1080/13892240108438818)
- Simis, M. J., Madden, H., Cacciatore, M. A. & Yeo, S. K. (2016). The lure of rationality: why does the deficit model persist in science communication? *Public Understanding of Science* 25 (4), 400–414. doi:[10.1177/0963662516629749](https://doi.org/10.1177/0963662516629749)

- Steinfeld, H., Gerber, P., Wassenaar, T., Castel, V., Rosales, M. & de Haan, C. (2006). *Livestock's long shadow: environmental issues and options*. Food and Agriculture Organization of the United Nations. Rome, Italy. Retrieved from <https://www.fao.org/3/a0701e/a0701e.pdf>
- Stevanović, M. I. & Gmitrović, A. M. (2015). Importance and role of internal communication in organizations. *Applied Mechanics and Materials* 806, 302–307. doi:10.4028/www.scientific.net/AMM.806.302
- Velten, S., Leventon, J., Jager, N. & Newig, J. (2015). What is sustainable agriculture? A systematic review. *Sustainability* 7 (6), 7833–7865. doi:10.3390/su7067833
- Voconiq (2020). *Community trust in Australia's rural industries: a national survey*. Voconiq. Australia. Retrieved from <https://www.agrifutures.com.au/national-rural-issues/community-trust/>
- Voconiq (2021). *Community trust in Australia's rural industries: year 2 national survey*. Voconiq. Australia. Retrieved from <https://www.agrifutures.com.au/national-rural-issues/community-trust/>
- Ward, P. R., Henderson, J., Coveney, J. & Meyer, S. (2012). How do South Australian consumers negotiate and respond to information in the media about food and nutrition?: The importance of risk, trust and uncertainty. *Journal of Sociology* 48 (1), 23–41. doi:10.1177/1440783311407947
- Willett, W., Rockström, J., Loken, B., Springmann, M., Lang, T., Vermeulen, S., ... Murray, C. J. L. (2019). Food in the Anthropocene: the EAT-Lancet Commission on healthy diets from sustainable food systems. *The Lancet* 393 (10170), 447–492. doi:10.1016/S0140-6736(18)31788-4
- Witt, G. B., Althor, G., Colvin, R. M., Witt, K. J., Gillespie, N., McCrea, R., ... Faulkner, T. (2021). How environmental values influence trust and beliefs about societal oversight and need for regulation of the Australian cattle industry. *Environmental Research Letters* 16 (3), 034006. doi:10.1088/1748-9326/abe1f7
- Witt, G. B., Witt, K., Carter, R. W. & Beeton, R. J. S. (2007). *Urban people's views of farmers, rural land management and conservation: clarifying "the public interest" in rural land management and rural issues for better communication and relationship building*. The School of Natural and Rural Systems Management, The University of Queensland. doi:10.13140/RG.2.1.2176.8166
- Witt, G. B., Witt, K. J., Carter, R. W. & Gordon, A. (2009). Exploring the 'city-bush divide': what do urban people really think of farmers and rural land management? *Australasian Journal of Environmental Management* 16 (3), 168–180. doi:10.1080/14486563.2009.9725233
- Worsley, A., Wang, W. & Ridley, S. (2015). Australian adults' knowledge of Australian agriculture. *British Food Journal* 117 (1), 400–411. doi:10.1108/BFJ-07-2013-0175

## Authors

Taylah Faulkner is an early career researcher passionate about understanding the communications opportunities and challenges in the context of sustainability in the Australian beef industry. Taylah has also worked on research related to public perceptions of, and trust in the Australian beef industry, which has been published in *Environmental Research Letters*. She is also a consulting member of the Communications Council for the Global Roundtable for Sustainable Beef.



[taylah.faulkner@uq.edu.au](mailto:taylah.faulkner@uq.edu.au)

Dr. Bradd Witt has undertaken a range of research including soil carbon, long-term environmental change, and has extensive research drawing on social science methods. Dr. Witt is passionate about research that can inform discussions around complex environmental issues. Understanding the role of people in these issues and the opportunity for positive change is central to his research activities. Dr. Witt is also a consulting member of the Communications Council for the Global Roundtable for Sustainable Beef.

 [bwitt@uq.edu.au](mailto:bwitt@uq.edu.au).

Dr. Heather Bray has over 20 years of experience in Science Communication as a practitioner, scholar, teacher, and researcher. She currently coordinates the Master of Science Communication and the undergraduate minor in Science Communication. Her research explores community understandings of, and attitudes to, the role of science and technology in food production and aims to improve communication and build trust between different stakeholders in the agri-food system.

  [heather.bray@uwa.edu.au](mailto:heather.bray@uwa.edu.au).

## How to cite

Faulkner, T., Witt, B. and Bray, H. (2022). 'Telling our story: communicators' perceptions of challenges and solutions for sustainability communication within the Australian beef industry'. *JCOM* 21 (06), A04.  
<https://doi.org/10.22323/2.21060204>.



© The Author(s). This article is licensed under the terms of the Creative Commons Attribution — NonCommercial — NoDerivatives 4.0 License.  
ISSN 1824-2049. Published by SISSA Medialab. [jcom.sissa.it](http://jcom.sissa.it)