Responding to Pressures to Adopt Environmentally Sustainable Practices: Farm Environmental Plans as “Boundary Objects”

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Abstract

How farmers navigate pressures to adopt increasingly environmentally sustainable farm practices can inform organisations including local government agencies and enable support for change initiatives. This paper presents preliminary findings from a case study of a dairy farmers’ discussion group in Hawke’s Bay, Aotearoa New Zealand. This discussion group represents an example of an initiative seeking to address recognised, local water quality issues. Farmers indicated that they perceived pressure from industry, the public, local government and a local community group to change practices in order to improve local water quality. Farmers reported proactive implementation of environmentally sustainable practices, but expressed that these efforts were not acknowledged. Farmers expressed a desire to address negative perceptions of dairy farming; recognising the influence of negative societal perceptions upon their social licence to operate. The farmer discussion group responded collectively by developing Farm Environment Plans (FEPs), in part as evidence of their efforts with regard to environmental sustainability in their farms. This unconventional way of using farm plans to demonstrate environmental practices, has implications for how these plans (and additional tools) could be developed in the future to improve communication between farmers and other actors in the transition to sustainable practices.

Keywords

boundary objects; environmental issues; multi-actor initiative; stakeholder groups; non-regulatory pressures; public perception

Introduction

Environmental sustainability and farm productivity are often regarded as antagonistic considerations which must be reconciled by farmers across agricultural industries. The dairy industry is a major industry in Aotearoa New Zealand, contributing 3.5% to Gross Domestic Product (GDP) in 2016 (New Zealand Institute of Economic Research 2017). At the same time, the dairy industry has contributed significantly to the on-going deterioration of water quality in rivers and lakes (Ministry for the Environment 2017). In recent years, public campaigns including campaigns by Fish and Game and Forest and Bird (Fish and Game 2018; Forest and Bird 2018) and policy measures, such as the National Policy Statement for Freshwater Management (Ministry for the Environment 2014) have been launched, aiming to improve water quality. These initiatives, along with increased public awareness of water quality issues, have brought attention to the effect of dairy farming practices on environmental health and dairy farmer’s Social License to Operate (SLO) is arguably being challenged (Foote et al. 2015; Edwards and Trafford 2016). Understanding how farmers navigate these challenges can inform organisations, including local government agencies, as to how they can support farmers and ultimately help facilitate a transition towards more environmentally sustainable farm practices.

This paper reports on research into how farmer practices are shaped in the context of a transition towards more environmentally sustainable agricultural land-use by exploring the following research question: how do farmers navigate pressures to adopt more environmentally sustainable practices? The research focused on how actors, their interactions and the local context were
perceived to influence practices. This paper reports on interviews with members and key informants involved with a dairy farmer discussion group in Hawkes Bay, New Zealand, who have actively worked to mitigate the impact of their dairy farming practices on local water quality.

**The Social Licence to Operate**

To study changing expectations of what constitutes socially acceptable practices by industries or organisations, scholars have explored the concept of SLO (Edwards and Trafford 2016; Moffat *et al*. 2016). Most of the literature on SLO focuses on the mining industry, but the concept has also been applied to other sectors, including agriculture (Moffat *et al*. 2016). Social license to operate is determined by the relationships between an industry and broader society and the social and legal licence to operate are not always aligned: approval on a regulatory level does not necessarily mean practices are socially acceptable (Shepheard and Martin 2008; Moffat *et al*. 2016). Social licence to operate reflects current societal values, expectations and perceptions and is negotiated and implied rather than acquired. Loss or compromise of the SLO can lead to conflict between the industry in question and the broader community (Moffat *et al*. 2016). Development and maintenance of SLO is a continuous and evolving process. Gaining and keeping SLO involves on-going negotiation between industry and society, during which industry practices must continue to be found justifiable (Shepheard and Martin 2008). For the New Zealand dairy industry, the SLO has been challenged, and it has been suggested that there is a need for farmers to communicate evidence of progress towards more environmentally sustainable farming practices, in order to retain SLO (Edwards and Trafford 2016). In other industries in which practices have been called into question (e.g. mining and oil industries), toolkits to engage with the community have been developed. These toolkits provide the mechanism to both demonstrate and communicate the alignment of practices with society’s expectations (Mercer-Mapstone *et al*. 2017).

**Boundary Objects**

“Boundary object” is a concept that refers to tools, ranging from documents to concepts, with the ability to enable communication between stakeholder groups. The concept was first introduced by Star and Griesemer (1989), who describe the use of boundary objects in their social study about the development of a museum in which people from different backgrounds needed to collaborate. Boundary objects emerge in their function as tools that connect stakeholder groups, and can vary in tangibility and flexibility (Klerkx *et al*. 2012). They can mean different things to different people, or groups of people. For instance, food labels have been described as boundary objects facilitating communication between the food industry and consumers (Eden 2011). Boundary objects can help identify and resolve disagreements between stakeholder groups, as well as identify areas of common ground. However, it is also important to consider the limitations of boundary objects. For example as, Tisenkopfs *et al*. (2015) highlights based on their research on empirical case studies examining the use of boundary objects in agricultural innovation; boundary objects can be more relevant to some stakeholders then others, or may lose their relevance to an issue over time. Boundary objects and SLO are both related to negotiations between people of different stakeholder communities who share an interest in the same “space”. Boundary objects can serve as a connecting tool that enables interactions between people to negotiate SLO.

**Methodology**

A qualitative single case study approach was used. The selected case is an example of a local response to a natural resource management issue. The criteria for the selection of the case included: that it was a multi-actor initiative aiming for sustainable land-use in Hawke’s Bay; and that the initiative has been active for at least three years. Based on these criteria, an existing farmer discussion group, run by DairyNZ (the national dairy industry good organisation) based in Hawke’s Bay region was selected. The farmer discussion group was based in an area that has recognised
water quality issues. At the time of the interviews, the discussion group consisted of thirteen dairy farmers who met to discuss farming practices once a month, on one of their farms. Findings presented here originate from six in depth, semi-structured interviews with members of the farmer discussion group (individually or in two cases both partners), eight key informant interviews with people from industry and government organisations linked with the group, and the analysis of documents (including reports from local government agencies, webpages of the organisations involved and newspaper articles about the local water quality issue). All interviews were recorded, transcribed, digitally coded (in NVIVO) and thematically analysed (Coffey et al. 1996).

Navigating Expectations

In addition to regulatory pressures, all interviewed farmers expressed feeling pressure from their community, the wider public and the media to adopt more environmentally sustainable practices. There was a strong sentiment among farmers that the dairy farming industry and farmers received an unreasonable amount of scrutiny compared to other sectors. As expressed by one farmer about perceived differences between attitudes toward dairying and urban sewage overflow:

*But if we have a mistake we get in trouble, if we have a rain event like we had an inch of rain in 30 minutes and everything starts overflowing or anything like that we get in trouble, but if that happens in town and raw sewage goes into the sea or the lake or whatever that’s fine* [Farmer 1].

Additionally, farmers argued that the measures they were taking to reduce pollution are more effective than the more visible measures demanded of them by Fonterra (dairy corporative they belong to) through the Sustainable Dairying Accord, such as fencing streams and planting trees. So, farmers felt the need to defend their practices from notions they considered incorrect or unfair.

In response to these non-regulatory demands, farmers mentioned several ways in which they were actively trying to change perceptions through communication. Interestingly, the farmers in the farmer discussion group had collectively elected to develop Fonterra Farm Environment Plans (FEPs) for their farms, partly in order to demonstrate their efforts and progress regarding environmental stewardship. One farmer explained the purpose of the farm plans as follows:

*This is why we’re pushing to get these farm environmental plans done so we’ve got them to take [to local community group meetings], so we’ve got evidence on it* [Farmer 2].

Initially the primary intention for creating the plans was not to act as a mechanism of communication to third parties, but to facilitate environmental planning and benchmarking. As a Fonterra sustainable dairying strategic team representative explained:

*[The plans were] more about our farmers understanding where they sat [with regard to environmentally sustainable practices] and how we could support them.*

The local community group in the catchment sought to incorporate the FEPs into catchment plans. Opportunities were identified to develop ways to integrate cultural and biodiversity values that the local community group felt were missing from the plans, and sought to align the FEPs with future objectives of the catchment plan. One local government employee expressed the following view:

*Some of the key areas that we don’t see in the Fonterra plan... like the cultural section, the biodiversity, biosecurity section and... making sure that the farm plans are plugged into the integrated [catchment] plan.*
In addition to developing their FEPs, the farmer discussion group appointed farmer representatives to advocate for the dairy farmers at local community group meetings. Farmers saw the wider dairy industry, in particular milk processor Fonterra, as actively trying to improve public perceptions about dairy farming environmental responsibility, both locally and nationally. Farmers cited examples including investments in sustainable dairy advisors, creating their FEPs, TV commercials promoting industry environmental sustainability, and the ‘Clean Streams Accord’ as evidence of responsible, effective stewardship. Farmers had responded to regulatory pressures and other motivations by making changes on farm, but during interviews the dairy farmers responses to negative perceptions and non-regulatory pressure reflected the need to communicate more effectively.

Discussion

In this study, farmers were found to navigate pressures to adopt more sustainable practices by seeking ways to communicate. This study identified differences in beliefs about what constitutes sustainable farm practices between the interviewed farmers and what they perceived the public believed. This difference drove farmers to seek to demonstrate and defend their practices. A parallel trend was seen by the participants in the wider industry, with industry organisations seeking to improve the industry’s environmental reputation. Therefore, in line with the work of Edwards and Trafford (2016), this empirical study suggests that dairying practices in New Zealand can be seen as an example where the SLO is being challenged. More specifically, farmers indicated that they were responding to regulations by adapting their practices, yet they felt further pressure from their community, the media and the wider public to adopt more sustainable practices. This can be described as an example of the legal and social licence not being aligned (Moffat et al. 2016) and different responses to each of them were observed.

In this case study perceived challenges to farmer’s SLO resulted in a mobilization of farmers who sought new ways to demonstrate their practices to their local community. The present study demonstrated that FEPs could act as boundary objects to communicate and demonstrate practices in the negotiation of SLO. The way the FEPs were used in the wider community was not anticipated or planned by the designers of these FEPs. Their use emerged because of a combination of local social and environmental circumstances. The FEPs were viewed and used differently by different stakeholder groups, and facilitated interactions that could be characterized as negotiations between these stakeholder groups. These attributes and uses of the FEPs are in line with what has been described in literature as boundary objects (Star and Griesemer 1989; Klerkx et al. 2012). Viewing FEPs as boundary objects is a novel way of viewing FEPs, which potentially broadens the scope of their application.

A practical implication of the observed use of FEPs as boundary objects in this case study is that future FEPs may be further developed to support this use. This could be achieved by adapting the language to non-farmer audiences and providing key summary information that could be easily understood. Additionally, in response to the demand of dairy farmers to demonstrate the sustainability of their practices and negotiate SLO, other tools could be deliberately designed to be used as boundary objects, as was done in the mining and oil industries (Mercer-Mapstone et al. 2017). However, as pointed out by Tisenkopfs et al. (2015), boundary objects also have their limitations, and careful consideration of the relevance of a boundary object to different stakeholder groups is important.

Conclusion

Evidence from this case study shows that FEPs were valued by farmers as a mechanism to communicate and make the sustainable practices farmers are implementing visible for people beyond their farms. Simultaneously, other actors saw opportunities to build on these plans. It is
argued that FEPs are facilitating communication between stakeholders, shaping views and potentially contributing to a renegotiation of their SLO. Future research, including farmer surveys with greater participant numbers, will be needed to confirm whether this desire to communicate and demonstrate practices is shared by dairy farmers nationally. Considering the existing widespread application of FEPs among farmers in Aotearoa New Zealand, this novel way of viewing FEPs as boundary objects opens potential new uses of the plans for many farmers. As boundary objects, FEPs may enhance communication between farmers and their communities, and ultimately facilitate the negotiation of SLO.

References


