Exploring Communication and Engagement Between New Zealand Farmers and Government Relating to Sustainable Agriculture

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Degree of Master of Commerce in Marketing
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Abstract

This thesis investigates communication and engagement between New Zealand farmers and government bodies, with a focus on sustainable agriculture. This thesis focusses on how communication and engagement is carried out between these two groups, and how it can be improved in order to achieve sustainability goals within the agricultural industry. Issues of sustainable agricultural policy, practices, and behaviours, alongside political communication within the New Zealand agriculture context have been investigated, expanding on existing literature. Academic literature relating to sustainability is relatively abundant, with an increased focus and awareness of sustainability issues, including sustainability marketing and sustainable development in modern society (Bridges & Wilhelm, 2008). However, there have been no studies examining the impact of political marketing on sustainable agricultural practices within the New Zealand context, causing a gap in current literature. The key concepts present throughout this thesis include sustainability, sustainable development, and sustainability marketing. This research aims to increase the level of knowledge, and therefore decrease the current gap in existing literature, regarding how New Zealand farmers and government communicate and engage with each other. This research focusses on the issues of sustainable agriculture, and how the uptake of sustainable farming practices and behaviours can be encouraged by local and central government. Through the exploration of views and opinions of a range of farmers and local government representatives relating to communication styles and strategies, insight into any disconnect between the groups will be provided, as well as opportunities for improving communication and engagement between the groups in future. The investigation was carried out using a qualitative exploratory research approach. A series of semi-structured interviews were undertaken with farmers and local government representatives from Canterbury and Hawke's Bay. Findings from these interviews were thematically analysed to form theoretical and practical implications. Ultimately, this research reveals an alignment of environmental goals between New Zealand farmers and government bodies, and a disconnect between these groups influenced by issues of timing, accountability, trust, and differences in communication styles. The final chapter of this thesis presents the theoretical and practical implications provided by the key findings, limitations and areas that require further investigation.

Keywords: Sustainability, sustainable agriculture, political communication, political engagement, New Zealand agriculture

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Chapter 1: Introduction

1.1 Overview

The aim of this is to investigate sustainable agricultural policy, practices, and behaviours, alongside political communication and engagement, as well as any issues relating to these topics, expanding on existing literature. This research focusses on farmer/government communication and engagement, and how it can be improved to help drive sustainability in New Zealand agriculture. Academic literature relating to sustainability is relatively abundant, with an increased focus and awareness of sustainability issues, including sustainability marketing and sustainable development in modern society (Bridges & Wilhelm, 2008). Existing literature investigating sustainable agriculture has tended to focus on on-farm practices and behaviours relating to sustainability, rather than external influences such as local and central government as drivers of sustainable agriculture, and regulators of environmental impacts (MacLeod & Moller, 2006; Smith & McDonald, 1998; Šūmane et al., 2018; Yunlong & Smit, 1994). With the environmental impacts of agriculture posing a significant concern for New Zealand society, it is essential to investigate all channels that could in some way, lead to improvements in sustainable agriculture, including the influence of local and central government.

The average consumer is eating 25% more than a consumer from the 1960s (Pretty, 2008). This, combined with population growth has seen the total land area used in agricultural production increase by 11%, mirrored by significant environmental impacts due to increased levels of irrigation, cultivation and the application of fertilisers and pesticides (Pretty, 2008). The severely negative impact of farming on natural resources has been highlighted by other sources including The Environment Foundation (2018b) which detailed significant concerns around freshwater, overuse of irrigation, point source pollution and sedimentation run-off. Sustainability goals and changes, such as those to combat these environmental impacts, must be led by those in high levels of the supply chain (farmers) and supported by stakeholders (local and central government, as well as consumers) (Foerstl et al., 2015). Existing literature examining issues surrounding sustainable agriculture has tended to investigate on-farm practices including resource use and management, rather than external motivators and influences such as government communication and engagement concerning sustainable agriculture (Lee, 2005; MacLeod & Moller, 2006; Yunlong & Smit, 1994). Therefore, this research examines the marketing techniques used by local government bodies to communicate and engage with farmers concerning environmental issues, as well as the forms of communication and engagement that farmers find effective, regarding sustainable agriculture.

The definition of sustainable agriculture from Harwood (1990) is used as a basis throughout this thesis: "an agriculture that can evolve indefinitely toward greater human utility, greater efficiency of resource use,

and a balance with the environment that is favourable both to humans and to most other species" (Harwood, 1990, p. 4). Specifically, sustainable agricultural practices relate to plant growth, different farm management practices and adapting to changing environmental conditions, as well as having significant social and economic impacts (Smith & McDonald, 1998).

Much of the previous research into sustainable agriculture has consisted of theoretical research into sustainable practices used by farmers and farming communities (MacLeod & Moller, 2006; Smith & McDonald, 1998; Šūmane et al., 2018), rather than exploring other areas that could lead to improved sustainable agriculture such as farmer/government communication. This research aims to increase the level of knowledge, and therefore decrease the current gap in existing literature, regarding how New Zealand farmers and government communicate and engage with each other. Through the exploration of the views and opinions of a range of farmers and local government representatives relating to communication styles and strategies, insight into any disconnect between the groups will be provided, as well as opportunities for improving communication and engagement between the groups in future.

The investigation outlined above was carried out using a qualitative exploratory research approach. A series of semi-structured interviews were undertaken with farmers and local government representatives from the Hawke's Bay and Canterbury regions of New Zealand.

1.2 Background of Research and New Zealand Agriculture

Existing literature has tended to focus on secondary research investigating sustainability issues and strategic marketing (Bridges & Wilhelm, 2008; Kotler, 2011; Sharma et al., 2010). Similarly, there is extensive literature covering, agriculture, its environmental impacts (Monaghan et al., 2007; Nagels et al., 2002), sustainability concepts, and marketing theory concerning sustainability (Bridges & Wilhelm, 2008; Foerstl et al., 2015; Sharma et al., 2010). However, few studies have analysed in-depth how governments use political and environmental communication or social marketing to promote and encourage sustainable agriculture, besides a small range of literature which has referenced the role of governments in improving sustainability across industries and countries (Heinberg & Bomford, 2009; Pfister, Schweighofer, & Reichel, 2016). Further concentrated analysis in this area could be considered essential to achieving sustainable agriculture in New Zealand. This opportunity is supported by Mitchell et al., (2010), which stated that research utilising the sustainable marketing orientation matrix could aid organisations in developing their marketing strategies to be more sustainability-focused.

This research aims to identify the most effective methods government bodies can use to communicate and market sustainable agricultural practices and behaviours to New Zealand farmers. This research explores any disjoint between farming communities, local government, and policymakers and provides insight into social marketing theory (Morgan, 2017) as well as political communication (Foster, 2010) and

environmental communication (Abbati, 2019). Studies of sustainable marketing frameworks in the past have used critical marketing theory (Gordon et al., 2011) while within the context of agricultural sustainability, there has been a shift from a positivist approach (Pretty, 1995), to a social constructivist approach (Šūmane et al., 2018). This shift, combined with the fact that analysis of sustainability marketing issues lacks a universal framework (Kotler, 2011) due to the varying opinions and theories surrounding the topic, resulted in a social constructivist approach being implemented for this research. Further to this, key topics such as behaviour change relating to the adoption of sustainable practices have been identified as lacking significant, focussed research (McKenzie-Mohr, 2000).

The impacts of intensive agriculture on New Zealand's natural environment is an issue that has been discussed and debated for many years, with political commentators, activists, politicians, farmers and the New Zealand media all raising concerns and debate over the management of New Zealand's natural resources(Greenpeace New Zealand, 2018; Gregory, 2008; Hutching, 2018; Piddock, 2019). However, across much of the literature from both New Zealand and around the world, there is little discussion of the role of governments in promoting sustainable agriculture. Many authors do make small references to governments' roles, but there is room for detailed investigation combining theory from sustainability, agricultural, political, and marketing literature.

Many farmers in New Zealand understand that sustainability and environmental issues, such as those listed above, are among the most significant threats facing their industry, highlighted by a recent report by the Ministry for Primary Industries (MPI) (2019). This report revealed that 92% of farmers are focused on improving environmental sustainability on their farms, while 63% of farmers expressed interest in further information or advice about improving resilience to climate change. The report also stated that 46% of farmers suggested that clear government policy guidelines would help them take action, and 46% of farmers had actively sought information about land management practices or climate change issues in the previous 12 months. Finally, the report also suggested that financial assistance, incentives or subsidies are the most effective method available to encourage farmers to make their operations more environmentally sustainable.

While these environmental issues are important, it is also essential to acknowledge the importance of agriculture to the New Zealand economy. The Primary Sector directly accounts for approximately 6% of real GDP in New Zealand and contributes to just over half of total export earnings (New Zealand Debt Management Office, 2016). The primary industries are among the largest employers in New Zealand, employing an estimated 136,500 in 2012 (Ministry for the Environment & Stats NZ, 2017). Total agricultural exports alone brought in over $28 billion as at year ending 30 June 2016. This includes over $759 million from raw wool; $6.77 billion from meat (Beef and Lamb New Zealand, 2019); $12.1 billion from dairy, $812 million from other animal products and $242 million from livestock exports

(Environment Foundation, 2018). More recently, a new report has shown New Zealand primary sector exports including dairy, meat, wool, forestry, horticulture, and seafood products have reached a record-breaking level over the past year at $46.4 billion for the year ended June 2019. This is an 8.7 per cent increase on the previous year. Total dairy export revenue alone was $18.1 billion, which is an 8.7 per cent increase from the previous year as well (Skerrett, 2019). Further discussion of sustainable agriculture issues and concepts is included in Chapter Two of this thesis.

1.3 Description of the Research Process

An exploratory qualitative research approach was taken to investigate agricultural sustainability and farmer/government communication and engagement. This approach was selected as it was deemed the most appropriate method based on the intentions of this research, and as it aligns with significant existing research and literature. Further justification and explanation of this research design are provided in Chapter Three.

Part of the research design for this thesis included the development of overarching, guiding research questions. These research questions could not be too broad, as it could have been challenging to plan and implement research, or too narrow, as this could have restricted and limited the research (Flick, 2004). The guiding research questions for this investigation are listed below:

1. What are farmers' understandings of sustainability?
2. How does this understanding influence their practices and behaviours?
3. How do farmers interact and engage with local and central government?
4. How can farmer-government interaction and engagement be improved through marketing techniques?

These research questions aided the researcher in developing the research process and the development of the interview questions, with the overarching goal of gathering insightful results and generating further understanding of these issues.

A series of semi-structured interviews were conducted with farmers and local government representatives from two regions of New Zealand. A total of fifteen interviews were completed, with sixteen individuals participating. Of the farmer interviewees, each was responsible for a unique operation on varying sized properties. This diversity provided a range of expertise and differing perspectives that provided insight into the topics being investigated. Likewise, local government representatives that participated held varying roles within their respective councils.

Upon the completion of the interviews, thematic analysis was used to identify the critical ideas and areas of interest to this research, which were grouped into six key themes: the motivations and influences of farmers, farmer's perceptions of agricultural sustainability, farmer perceptions of government, farmer perceptions of their engagement and communication with government, government's role in sustainable agriculture, and the regional councils' perceptions of engagement and communication with farmers. These themes were categorised and grouped in the sections found throughout Chapter Four. Additionally, any contrasting or interesting responses, ideas and concepts put forward by interviewees were also included and discussed, highlighting the variability in the qualitative data.

1.4 Structure of the Thesis

This thesis contains five chapters, each detailing a different aspect of the entire project—a brief outline of these chapters is included below.

Chapter One has introduced the critical concepts and issues to this thesis, providing background information on sustainable agriculture in New Zealand. Existing literature relating to the key topics of this thesis has also been briefly outlined.

Chapter Two expands the discussion of key academic literature. Chapter Two provides an in-depth review of critical academic literature covering the key topics of this research including strategic marketing, sustainability, the Triple Bottom Line, sustainable agriculture, public affairs and political marketing, government sustainability policy, production process change and producer motivations, and research into marketing to farmers.

Chapter Three details the methodology used throughout this research, as well as the process followed by the researcher, providing justification based on the research aim and existing literature. Chapter Three details the ontological, epistemological and theoretical assumptions applied to this research, as well as an outline of the research design, method, the data analysis technique used, how data quality will be evaluated, and all ethical considerations that apply to this research.
Chapter Four summarises the key findings from the research process, detailing the key themes discovered by the researcher throughout the interview process, and analysing these themes alongside relevant academic literature.

Finally, Chapter Five provides further discussion of the key themes that this research has produced, detailing the core comparisons between the themes highlighted by farmer interviewees and those highlighted by local government representatives. Theoretical and practical implications of this research are

also provided in Chapter Five, as well as the limitations this research has encountered, and direction for future research projects.

Chapter 2: Literature Review

2.1 Introduction

This chapter analyses existing academic literature concerning, agriculture, its environmental impacts, sustainability concepts and marketing theory with respect to sustainability. Literature that has discussed and defined relevant marketing theory, as well as sustainability concepts such as the Triple Bottom Line, has been reviewed to provide insight into the key academic concepts of this thesis. To provide background information on ways in which managers attempt to address the problems and research questions outlined in Chapter One, literature discussing strategic marketing and sustainability is also included in this chapter. As sustainable agriculture is a crucial concept to this thesis, literature that provides definition and insight into this topic is also summarised.

The qualitative interviews used to gather primary data for this research investigated many issues and areas of interest with both farmers and local government representatives. Therefore, in preparation for this, literature concerning public affairs and political marketing, government policy concerning land use, production process change and producer motivations, and marketing to farmers is reviewed in this chapter. This provides both background knowledge of these concepts, and helped to identify the gap in the literature that this research seeks to fill.

This chapter demonstrates that few studies have analysed the ways in which governments must use concepts such as environmental communication and social marketing to promote and implement sustainable agriculture policies. Some pieces of literature present in this chapter have made small references to the role of governments in improving sustainability across multiple industries and countries. However, the concentrated research present in this thesis should be considered essential to achieving sustainable agriculture in New Zealand and reducing this gap in knowledge.

2.2 Marketing, Sustainability, and the Triple Bottom Line

Before examining the literature on sustainable agriculture and how policymakers must market these practices to farming communities, it is essential to analyse the elements of this topic individually. As the concept of sustainability is central to this research, it must initially be clearly defined. This next section analyses different pieces of literature pertaining to the topics of sustainability, sustainability marketing and the Triple Bottom Line.

One definition of sustainability comes from The United Nation's 1987 *Report of the World Commission on Environment and Development: Our Common Future*, where sustainable development was defined as "development that meets the needs of the present without compromising the ability of future generations to meet their own needs. It contains within it two key concepts: the concept of 'needs', in particular the essential needs of the world's poor, to which overriding priority should be given; and the idea of limitations imposed by the state of technology and social organisation on the environment's ability to meet present and future needs" (The United Nations, 1987, p. 41), while the concept of limiting resources and maximising the usage of available resources have also been included in the definition of sustainability (Bridges & Wilhelm, 2008; Gordon et al., 2011; Sharma et al., 2010). Sustainability has also been defined as the need to develop models necessary for both humanity and our planet to survive (Sustainability Degrees, 2013).

The concept of sustainability has often been combined with marketing strategy, such as the work by Belz and Peattie (2012). Belz and Peattie argued that these two concepts share many elements including business survival and prosperity, and listed six key elements of sustainable marketing including socio-ecological problems, consumer behaviour, sustainability marketing values and objectives, sustainability marketing strategies, sustainability marketing mix and sustainability marketing transformations. Kemper and Ballantine (2019) also discussed sustainable marketing and the challenge of defining the concept, as they highlighted the contradictions of the two concepts when examined individually. Ultimately this article outlined three conceptualisations of sustainability marketing, with each holding a slightly different meaning. These conceptualisations are as follows; Auxiliary Sustainability Marketing (which refers to the production of sustainable products), Reformative Sustainability Marketing (which extends the auxiliary concept by adding the promotion of sustainable lifestyles and also refers to behavioural changes), and Transformative Sustainability Marketing (which builds upon the first two concepts by adding the need for changes to current institutions and social norms, as well as the need for critical reflection). All three of these concepts apply to the issue of improving sustainable agriculture in New Zealand, as the agricultural products being produced, the behaviours of consumers and farmers as well as the views of society towards agriculture are being examined.

Moving on from the concepts of sustainability marketing discussed above, more focussed marketing concepts that can be used to examine issues such as sustainable agriculture in New Zealand must also be reviewed. One such focussed concept is the Triple Bottom Line.

The concept of the Triple Bottom Line (TBL) incorporates environmental, social and economic elements all relating to sustainability, and is present in much of the sustainability literature (e.g. Bosch-Badia et al., 2017; Bridges & Wilhelm, 2008; Mitchell et al., 2010). TBL is often used as a tool for evaluating the success of marketing strategies and projects. However, Bridges and Wilhelm (2008) stated that the over-

emphasis on the economic factor of TBL could skew the perceptions of success when it comes to sustainability. The authors went on to argue that marketing strategy plays a significantly negative role in this, with the promotion of consumption having a negative impact on the environment, causing over-use of resources, pollution, and adverse health effects on the population. In support of this is Kotler (2011), which highlighted the fact that traditional marketing strategies are based on the idea that there are infinite resources available, where this is not the case if the needs of future generations are to be taken into account. Furthermore, Gordon et al. (2011) discussed how marketing strategies could lead to overconsumption, excess waste and pollution by striving to sell more goods and services to consumers.

The TBL concept is integral to sustainability and sustainable marketing (Bosch-Badia et al., 2017), however, the drivers of sustainability must also be studied in order to promote and encourage sustainable practices within the agricultural industry in New Zealand. Analysis of political influence on sustainable marketing, particularly concerning New Zealand farming is essential. However, the following section will firstly focus on the concept of strategic marketing and how it relates to sustainability, before later moving into an agricultural and political application of these concepts.

2.3 Strategic Marketing and Sustainability

There is a vast array of literature on sustainable marketing as well as strategic marketing. Banerjee (2001) suggested that sustainable marketing is closely aligned with every aspect of a business' decision making, including an overall sustainable world view. Financial incentives such as cost-saving strategies were discovered to be the main drivers for sustainability within a business by Sharma et al. (2010). This discovery highlighted the fact that external benefits, such as reduced pollution and waste and the impact on the natural environment, were not as influential as financial incentives when it came to a business' strategic marketing. However, in Sharma et al. (2010), economic sustainability was the concept in focus, not environmental sustainability, which would explain the lack of consideration given to the external benefits listed above. This focus is still concerning though, as it suggests that perhaps other businesses such as New Zealand farms may also be motivated firstly by costs and profits, before concerns for the environment.

According to Sharma et al. (2010), the internal processes such as research and development, production, financial and marketing practices must be aligned between all stakeholders, in order for the development of sustainable strategies to be implemented by the business. While Sharma et al. (2010) argued that all stakeholders must agree on matters of sustainability and business strategy, Foerstl et al., (2015) suggested that external influencers such as regulators, consumers and nongovernment organisations (NGOs) have a greater impact on the implementation of sustainability strategies. However, both Sharma et al. (2010) and

Kotler (2011) argued that business to business (B2B) organisations are less impacted on by consumer pressures due to the nature of their communication and interaction between businesses.

Both Bridges and Wilhelm (2008) and Sharma et al. (2010) agreed that in order to achieve sustainability goals, these goals must be agreed upon and supported by all stakeholders including business leaders, consumers, government agencies and NGOs. Sharma et al. (2010) in particular, highlighted the issue of not having clear leaders when it came to sustainability initiatives. This work posed the question of sustainable responsibility, whether it was the responsibility of consumers to lead sustainable initiatives or whether it is the responsibility of business leaders, owners and managers. Adams et al. (2016) somewhat answered this question stating that sustainability cannot be achieved simply by the compliance of organisations, but that it must be led by the managers of organisations. Foerstl et al. (2015) supported this, emphasising that sustainability goals and changes must be led from the higher levels of the supply chain, and be supported by stakeholders.

In terms of food products such as meat and dairy, farmers are essentially very high in the supply chain (Shen et al., 2018). Therefore, sustainability goals within this industry can and should be led by farmers according to the discussions above. The next section of this literature review provides some further background information on agriculture in New Zealand, as well as the concepts of sustainable agriculture from literature from New Zealand and sources from around the world.

2.4 Sustainable Agriculture

Harris and Fuller (2014) referred to agriculture as ways in which crop plants and domesticated animals sustain the global human population by providing food and other products, and includes a range of activities such as cultivation, domestication, horticulture, arboriculture, vegeculture and livestock management. Many definitions of agriculture from other sources align closely with the definitions provided by this article (Bareja, 2019; Learner, 2019; Maryland Cooperative Extension, 2019; Merriam-Webster, 2019). Leading on from this background information on agriculture, it is now vital to analyse the concept of sustainable agriculture.

Sustainable agriculture is the primary focus of this research. Therefore, a comprehensive definition is required before further discussion occurs. Harwood (1990) gave a useful definition of sustainable agriculture that can be used as a basis for the remainder of this project: "an agriculture that can evolve indefinitely toward greater human utility, greater efficiency of resource use, and a balance with the environment that is favourable both to humans and to most other species" (Harwood, 1990, p. 4). Harwood's definition of sustainable agriculture is supported by numerous other works including Feenstra

(2019), Union of Concerned Scientists (2019), Gould (2014), Foley (2019), Brodt et al. (2011), United States Department of Agriculture (2019), Western SARE (2012) and Conserve Energy Future (2019).

Similarly, MacLeod and Moller (2006) defined sustainable agriculture as "The use of farming practices which maintain or improve the natural resource base of agriculture, and any parts of the environment influenced by agriculture" (MacLeod & Moller, 2006, p. 202). Pretty (2008) built upon this definition further by including technological factors, stating that sustainable agriculture is "the need to develop technologies and practices that do not have adverse effects on environmental goods and services, are accessible and effective for farmers, and lead to improvements in food productivity" (p. 229-30). MacLeod and Moller (2006) went on to incorporate the ideas of profitability and product quality maintenance into their discussion of sustainable agriculture as well.

Another definition that shares elements with those stated above is the one given by Van Cauwenbergh et al. (2007) which referred to sustainable agriculture as "the management and utilisation of the agricultural ecosystem in a way that maintains its biological diversity, productivity, regeneration, capacity, vitality and ability to function, so that it can fulfil – today and in the future – significant ecological, economic and social functions at the local, national and global levels and does not harm other ecosystems" (p. 229-30). Finally, Lee (2005) listed five key elements that ensure an agricultural system is sustainable, in that it must be resource-conserving, technically appropriate, environmentally non-degrading, and socially and economically acceptable.

Smith and McDonald (1998) proposed several more focused concepts involving sustainable agriculture. Firstly, within a biophysical sense, the authors saw sustainable agriculture as being influenced by plant growth, different farm management practices and the changing environmental conditions. Economically, agriculture plays an essential role in many economies worldwide, particularly in New Zealand. Smith and McDonald (1998) also saw sustainable agriculture as having a significant social influence, referring to it as; ensuring communities are provided with food and fibre, while maintaining fairness, improving technology, product quality and security.

Building on the ideas of sustainable agriculture given above, the environmental impacts of traditional agriculture must be examined. The Environment Foundation listed numerous environmental impacts of agriculture in New Zealand on their website, highlighting the need for sustainable practices (based on the work of Harwood (1990)) within the agricultural industry in New Zealand (Environment Foundation, 2018b). Freshwater is a significant concern listed by the Environment Foundation, as well as the issues surrounding irrigation, point source pollution, and sedimentation run-off. As a result, a significant focus of current national and regional regulation is on keeping cows out of waterways and ensuring all waterways on intensively farmed land is fenced.

The research by Nagels et al. (2002) also highlighted the need for preventative measures to ensure New Zealand waterways are protected, while the study by Monaghan et al. (2007) showed the direct impact that intensive agriculture systems have on the natural environment, using a case study from Southland, New Zealand. Pretty (2008) reported that there had been increased levels of adverse environmental impacts from agriculture, as well as an increase in total agricultural land used worldwide by 11% since the 1960s. Alongside this are the increased levels of irrigation, cultivation and application of fertilisers and pesticides to this land. These increases are mirrored by the increasing demand for agricultural products due to population growth, and the fact that on average, consumers are now eating 25% more than a consumer would have in the 1960s (Pretty, 2008).

It is largely accepted that modern food production and modern farming practices have one of the greatest environmental impacts ever studied (Heinberg & Bomford, 2009). Throughout Heinberg and Bomford (2009) the concept of a transition from modern farming practices to more efficient, less resource-intensive farming practices is also discussed. Heinberg and Bomford (2009) encouraged the support of small-scale organic farming, suggesting that governments must support small scale sustainable agriculture. In support of this is Horrigan et al., (2002) which stated that traditionally, agriculture has been considerably unsustainable, with overuse of resources causing severe damage to the natural environment. Horrigan et al. (2002) went on to discuss how sustainable agriculture is a long-term objective and that there are farming systems and practices that should be implemented in order to achieve this goal. In order to decrease the environmental harm from agriculture methods such as crop rotation, nutrient mapping, herd size management and waterway protection methods should be implemented.

While technology is often seen as a solution to production problems, in the case of sustainable agriculture, technology alone will not help achieve the goals (Pretty, 1995). Overall, stakeholder partnerships and improved innovation will offset and remove the issues of over intensification in farming; "Technologies are not sustainable, what needs to be made sustainable is the process of innovation itself" (Pretty, 1995, p. 1249). In support of this idea is Yunlong and Smit (1994), who argued that improved management practices and a simplification of sustainable agriculture at a local/culturally relatable level would lead to improved sustainability on farms. Garnett et al., (2013) moved away from these ideas slightly with the concept of sustainable intensification (SI) being a significant issue for farming industries. This issue includes concepts such as food security, increased competition for resources such as land and water, and the ongoing impact of agriculture on climate change. The SI concept from Garnett et al. (2013) suggested that improved productivity, getting more out of fewer resources, was a key element to achieving sustainability within the agriculture industry. Garnett et al. (2013) suggested that higher yields from existing farmland should be an objective for sustainable agriculture, rather than increasing the amount of agricultural land available.
Pfister et al. (2016), addressed many issues related to sustainable agriculture, beginning by stating that agriculture must operate within ecological boundaries and that overexploitation can have devastating

effects on human health and wellbeing. Pfister et al. (2016) used a definition of organic agriculture from Harwood (1990) throughout the article and concluded that agricultural food production is of "immense relevance for sustainability and that the industrialisation of agriculture has created a whole range of new challenges" (Pfister et al., 2016, p. 84). The authors also highlighted the current challenges facing marketers, including promotion of new agricultural practices that care for the environment rather than purely exploiting it. The authors suggested that increased political support is essential for promoting and expanding the organic food sector. These findings align with the issues being investigated in this thesis, as outlined in Chapter One, and provide further encouragement towards the necessity of this research.

While the report by The Environment Foundation (2018b) demonstrated the severe negative environmental impacts of agriculture in New Zealand, Aerni (2009) compared the views of agriculture experts in New Zealand and Switzerland on sustainability issues within their agriculture industries, using stakeholder perception surveys, and examined how these views are influenced by government policy. This comparison was achieved through the use of statistical analysis to generate models showing the differing views of New Zealand and Swiss respondents. The author found that public opinion on sustainable agriculture was driven by dominant political stakeholders with particular political agendas.

New Zealand respondents generally revealed that technological and economic change were necessary to increase sustainable agriculture in New Zealand, supported by the progressive attitude of the New Zealand primary industries and overall national competitiveness. Swiss respondents, however, viewed Swiss agriculture as already sustainable, and that international trade and development of new technologies may lead to a decrease in their sustainability. This stance can be linked directly to the countries defensive agricultural policy (Aerni, 2009). The paper also identified methods of increasing sustainability including labelling eco-friendly agriculture, taxing food miles, precision agriculture, genetic engineering and organic agriculture. As suggested by Bridges and Wilhelm (2008) and Sharma et al. (2010), the top-down leadership of sustainable agriculture must be implemented. Aerni (2009) supported this, showing that government policy has a significant impact on sustainable agricultural efforts and that all stakeholders, including government agencies and farm managers, should be in agreement regarding sustainability goals. Respondents from New Zealand acknowledged the valuable contribution of organic farming and eco-labelling but thought it was insufficient to ensure sustainable agriculture on a large-scale. Instead, they suggested a combination of multiple approaches including precision agriculture, biotechnology and policy incentives for farmers.

Sustainable agriculture can clearly be influenced by many different stakeholders, and as this literature has shown, a countries government should be considered a significant influencer of sustainable agriculture goals. The next section of this review moves away from specific literature on sustainability and agriculture and instead examines existing literature on public affairs and political marketing. These topics play a

critical role in this research as the research attempts to analyse the most effective way for political agencies to communicate with farmers regarding sustainability issues.

2.5 Public Affairs and Political Marketing

Schafer (2019) provided a detailed systematic review of literature on public engagement and participation, which in turn provided managerial insight into the best methods for increasing public participation in the affairs of local governance. Within this article, engagement referred to the passive mechanisms such as communicating information to the public. Participation referred to the expansive opportunities for dialogue and deliberation as well as debate. Over 900 articles from public administration journals were screened for this analysis, giving a comprehensive view of the different factors that determine the level to which individuals participate in public engagement. Overall the review identified many influential factors that determine the level of public engagement including a public administrators' perceptions, beliefs and behaviours, the representativeness of the bureaucracy, any recruitment strategies used, individuals' rationality, perceptions, beliefs and behaviour, as well as the institutional and structural features of the public agency.

All of the factors discussed above could in some way influence the engagement of farmers in public affairs in New Zealand, and posing questions based on these themes would provide further insight into rural communities and public affairs in the New Zealand context.

Bohnen and Hennies (2018) discussed why brands should encourage and foster political sustainability. In support of what was discussed by Schafer (2019) above, this commentary suggested that businesses have a significant role to play in increasing interactions within the public realm, an important concept for this research project. Bohnen and Hennies (2018) suggested that by embracing Corporate Political Responsibility (CPR), businesses can strengthen political communication and public interactions. The significant aspects of CPR include responsible lobbying, positioning of the brand and company using themes and dialogues, participation in political projects and the providing of public goods.

Moving forward from the literature analysed above, Harris and Sun (2017) discussed how political marketing could be split into two fields: the intranational market and the international market. For this research project, political marketing will refer to the first market type, including interactions between individuals and businesses and governance at the local, district, municipal, state/provincial and national levels. Other pieces of literature discussed in this review do acknowledge the potential need for international governance and regulations concerning sustainable food production (Heinberg & Bomford, 2009 and Pfister, et al., 2016).

The following section takes the theories and concepts previously discussed including sustainability, sustainable marketing, sustainable agriculture and political marketing, to generate a discussion around current government influences, such as policies and regulations, and their impact on sustainable agriculture. The New Zealand government and its approach to sustainable agriculture will be the focus of the following section. However, studies incorporating other countries' political influence over agriculture will also be discussed.

2.6 Government Policy and Sustainable Agriculture

The New Zealand Government is considered a facilitator of sustainable change through the promotion of technological innovation and rural entrepreneurship, strict biosecurity control, as well as incentives to adopt sustainable farming practices (Aerni, 2009). However, there is growing concern that the government's approach to sustainable agriculture is too slow because of the rapidly increasing environmental problems, especially in dairy farming (Williams & Richardson, 2004).

A helpful report that compared the policies of OECD countries related to green growth and sustainability in agriculture is Policy Instruments to Support Green Growth in Agriculture (OECD Publishing, 2013). Information for this report was provided by the governments of the OECD countries, including New Zealand. The report defined green growth as "fostering economic growth and development, while sustaining the natural assets base that provides the resources and environmental services on which our wellbeing relies" (OECD Publishing, 2013, p. 9).

Interestingly, the report revealed that overarching green growth strategies in agriculture are only in place in two countries: Denmark (Green Growth Strategy launched in 2009) and Korea (Low Carbon, Green Growth Strategy launched in 2008). This report is interesting as this researcher assumed that most countries would have had an overarching green growth strategy for agriculture already in place, however, this is not the case. New Zealand has no formal document for green growth strategy but instead has numerous individual policies. In 2011 the New Zealand Government appointed a Green Growth Advisory Group (GGAG), to evaluate and advise on green growth opportunities for the NZ economy. The government then responds to these recommendations through the Business Growth Agenda (BGA). In New Zealand, the Primary Growth Partnership (PGP) provides investment for research and innovation in sustainable agriculture, forestry and food industries, while the Sustainable Farming Fund (SFF) supports rural communities undertaking research of their own. The Pastoral Greenhouse Gas Research Consortium (PGGRC), a partnership between government and dairy and fertiliser industries, formed in 2002, provides livestock farmers information and techniques to manage their emissions. The goal of the PGGRC listed in this report was to decrease emissions by 10% per unit of output by 2013. The Sustainable Land Management and Climate Change Plan of Action (SLMACC), launched in 2007 and managed by the

Ministry of Agriculture and Forestry (MAF), (now MPI), is a partnership between government, landowners, land management sectors, and Māori. The roles of the SLMACC consist of research, reducing emissions and adapting to climate change, and dispersing this information.

Other sustainable based initiatives in New Zealand include the Irrigation Acceleration Fund (supports investments in rural water infrastructure, provides funding for water management studies and funding for community irrigation schemes), the Emissions Trading Scheme (ETS) (a priced-based mechanism for managing GHGs) and the Sustainable Management Fund (which provides cost-sharing for sustainable community projects. The Sustainable Farming Fund, launched in 2000, has similar objectives but is more targeted at landowners.) (OECD Publishing, 2013).

Portney (2015) discussed sustainability and governments and the importance of public policies for sustainability. This article supported the efforts of the New Zealand government in the implementation of its numerous sustainability-focused initiatives. Portney (2015) then went on to discuss how government policies can impact on institutional and individual behaviours and in turn, the environment.

The current New Zealand Government has several goals for the land-based sectors of New Zealand which were presented to Cabinet in May 2018 by the Minister of Agriculture and the Minister for the Environment. These goals include ensuring New Zealand becomes the world leader in producing high value, sustainable primary products and services, ensuring New Zealand's primary industries remain profitable while fostering innovation. An additional goal outlined was to ensure that any further degradation to New Zealand's environment and productive capacity is stopped while existing damage is reversed as well as reducing New Zealand's contribution to climate change (Office of the Minister of Agriculture & Office of the Minister for the Environment, 2018).

However, Duncan (2014) argued that there had been insufficient funding from the New Zealand Government in the past for research into agricultural pollution prevention methods. This concern is supported by the report from MPI (2019) which highlighted that 58% of New Zealand farmers see financial assistance, incentives or subsidies as the most likely methods for encouraging action to make their farms more environmentally sustainable. Duncan (2014) suggested that established quantitative models for measuring pollution in New Zealand waterways and predicting optimal resource use levels have been unreliable in the past, but the paper did not suggest alternative methods for measurement and predictive purposes.

Government interventions and policy, while significant influencers of agricultural producers are not the sole influencers which will help achieve sustainable agriculture goals in New Zealand. The following

section of this literature review will examine what motivates producers within any given industry to make changes to their production process in order to become more sustainable.

2.7 Production Process Change and Producer Motivations

In order to understand how to best market sustainable agricultural policies to New Zealand farmers, the concepts of producer motivations must be analysed. The underlying motivations for most producers in a market economy are rooted in the fundamentals of supply and demand. The prices of goods and services within the economy are determined by supply and demand, and this leads to increased productivity (by producing more individuals and businesses can earn more), increased business efficiency and innovation by companies to gain a competitive advantage (Hall, 2018).

However, producers are no longer driven solely by profits and productivity. Sustainability and protection/preservation of the natural environment and resources has become a significant influence over producer motivations and their goals as a business. Bansal and Roth (2000) examined the motivations for companies adopting more sustainable and environmentally friendly practices. They identified three motivations for corporate ecological responsiveness: competitiveness, legitimation and ecological responsibility. They also found that these motivations were influenced by contextual conditions such as field cohesion, issue salience and individual concern.

Bansal and Roth (2000) defined corporate ecological responsiveness as a set of corporate initiatives to mitigate a firm's impact on the natural environment. Initiatives can include changes to products, processes and company policies (reducing energy consumption and waste generation, using ecologically sustainable resources, and implementing environmental management systems). The motivations for adopting environmentally friendly practices included competitiveness (the potential for improving their profitability long-term), legitimation (how firms looked to improve their actions and decisions concerning regulations, norms and values), and ecological responsibility (managers may already have a set of internal personal values that they implement within their business). The strength of the inductive design of this research is that it exposed new insights and new relationships between different motivations and different drivers that influence the decision making of business managers.

Diffusion of innovation (DOI) theory suggests that like the motivations discovered by Bansal and Roth (2000), individuals and business can be influenced by their social system (Mahajan & Peterson, 1985). As the farming communities of New Zealand make up the social system element of the diffusion process, the New Zealand Government could be considered a part of the channels of communication element (Mahajan & Peterson, 1985). As innovative, sustainable farming practices are developed, the government can play a crucial role in adapting these practices into policies and implementing them across the country. The other

critical elements in the diffusion of innovation process include the innovation itself and time (Mahajan & Peterson, 1985). This idea of using the theory of diffusion of innovation within the agricultural industry was applied in the research of Long et al., (2016). These authors found that the use of the theory of innovation diffusion was successful in the research around organic farming, treating organic farming as the innovation.

The concept of political communication must also be addressed to help analyse the problems posed in the introduction to this review. Political communication has been discussed previously in this review, with many pieces of literature acknowledging the role governments play in influencing business practices and motivating managers to make changes to their practices concerning sustainability (e.g. Bridges & Wilhelm, 2008; Sharma et al. 2010). Foster (2010) referred to communication strategy as how political parties organise and mobilise their communication process and resources, in order to support and promote their political objectives. Foster (2010) used a political campaign by the British Labour party in 1997 as a case study for demonstrating the strengths of particular political communication strategies. The author stated that a political party's image is an integral part of political communication. Foster (2010) discussed how techniques traditionally used to market and sell commercial products could also be used to promote political campaigns and policies and went on to discuss government communications. However, disappointingly, communication of new legislation, especially sustainability-related, was not discussed in this article.

While Foster (2010) discussed political communication in-depth, the discussion in Lamb (1987) focussed on analysing the strategic marketing methods found within the public sector. Lamb (1987) discussed the pressures on the public sector from clients (citizens) and the marketing techniques associated with responding to these pressures. This paper covered broad aspects of public sector marketing, but there was no real emphasis on the marketing of particular policies. As marketing techniques are constantly and rapidly evolving, the discussion in Lamb (1987) is relatively limited in its usefulness to this research project.

Closely tied to the topic of political communication and public sector marketing is the concept of environmental communication. Both political and environmental communication are integral to this research project, and both play an essential role in influencing business managers and decision-makers. Meisner (2015) gave a broad and loose definition of environmental communication as any communication about environmental affairs. The parties involved include environmental activists, politicians, corporations, scientists and any individual or group involved in the discussion of environmental issues. Therefore both the New Zealand Government, regional councils (local government) and New Zealand farmers are all considered parties involved in environmental communication. Meisner (2015) also listed one of the central goals of environmental communication as the promotion of good practice. Expanding

on the definition of environmental communication given by Meisner (2015) is the work by Cox (2013). Even though this article was published before Meisner (2015), the ideas and concepts surrounding environmental communication are expanded and discussed more thoroughly in Cox (2013). The author defined environmental communication as the "pragmatic and constitutive vehicle for our understanding of the environment as well as our relationships to the natural world; it is the symbolic medium that we use in constructing environmental problems and in negotiating society's responses to them" (Cox, 2013, p. 19). This definition of environmental communication will be used throughout the remainder of this project.
The final section of this literature review examines literature that focusses on specific marketing strategies that are used to target and influence farmers and farming communities. As Foster (2010) suggested, techniques traditionally used to market goods and services may also be implemented to promote political parties and their policies. Therefore, marketing strategies used to market goods and services to farmers should be analysed, and then potentially applied to the topic of political communication and promoting sustainable agriculture.

2.8 Marketing to Farmers

Targeted marketing is only effective when the target audience is adequately understood, hence, literature discussing the uniqueness of rural communities as marketing audiences must be examined.

Gulson and Symes (2007) used case studies to compare and discuss the differences between policy and education systems in cities compared to rural communities. The paper focused on education, and the qualitative analysis was conducted entirely within the USA. The authors suggested that the differences in audience types between urban and rural communities mean that differentiated marketing techniques are required for each, but specific techniques were not outlined. Much of Gulson and Symes (2007) aligns with earlier works on rural sociology such as Naples and Sachs (2000).

In contrast to the work by Gulson and Symes (2007), Farm Market iD (2019) provided a guide to using digital marketing techniques to market products to farmers. Where Gulson and Symes (2007) failed to provide specific techniques for marketing to rural communities, this guide by Farm Market iD (2019) suggested that digital marketing is the most effective form of marketing to farmers. The guide also suggested an integrated digital marketing plan consisting of direct mail, display ads, email marketing and social media ads are the most effective way to market to farmers, arguing that the modern farmer is an avid user of smartphones and social media. However, this website is a business's website, promoting their guide as a service to any agribusiness that is attempting to market to farmers. The Farm Market iD database is a resource used by agri-marketers in the US, so any recommendations made by this website are most likely a form of marketing for Farm Market iD itself, rather than reliable marketing literature. These techniques proposed by Farm Market iD (2019) are supported by Miller who stated that the 21st Century farmer is

using smart farming techniques and technologies (Miller, 2017a) and that online marketing strategies such as social media marketing are the most effective when it comes to targeting farmers (Miller, 2017b). Interestingly, Rahman et al. (2016) suggested that farmers mainly prefer to source their information on practices and policies from their neighbours, television, experienced farmers, radio, input distributors, newspapers and on-farm labourers. This suggestion somewhat contradicts the suggestions by Farm Market iD (2019) and Miller (2017a, 2017b). However, this contradiction may be explained by the rapid uptake of social media and online platforms by farmers in recent years, as discussed in Farm Market iD (2019) and Miller (2017a, 2017b). Additionally, the research by Rahman et al. (2016) was conducted in villages in Bangladesh where access to online sources would be relatively limited.

Expanding on the ideas from Gulson and Symes (2007), Farm Market iD (2019), and Miller, (2017a, 2017b) is the work by Prakash (2002). The author examined green marketing, stating that the concept of green marketing does include manipulating the four Ps (product, price, place and promotion), but also requires an understanding of public policy. Prakash (2002) described the relationship between the marketing discipline, the public policy process and the natural environment as 'green marketing'. The author also focussed on consumers as the target of green marketing, but there is some discussion of the impact of green marketing on firms. Prakash (2002) continuously referred to pressures from legislation and regulators as nonmarket influence and summarised that often firms do not have sufficient incentives for adopting green policies. The author also suggested that collective costs (e.g. taxing consumers in order to subsidise sustainable food production) may be a more effective policy for achieving sustainability, rather than individual costs (e.g. charging consumers premium prices for organic products).

2.9 Literature Review Conclusion

This literature review has demonstrated that while there is extensive literature covering, agriculture, its environmental impacts, sustainability concepts and marketing theory with respect to sustainability, few studies have analysed in-depth the ways in which governments must use concepts such as political and environmental communication and social marketing to promote and implement sustainable agriculture policies. Many authors make small references to the role of governments in improving sustainability across multiple industries and countries. However, further concentrated analysis in this area could be considered essential to achieving sustainable agriculture in New Zealand.

Chapter 3: Methodology

3.1 Introduction

This chapter turns away from the discussion surrounding literature concerned with the topics of investigation, and instead focusses on the research process itself. This chapter includes discussion and explanation of the ontological and epistemological considerations the researcher has taken into account, followed by the theoretical assumptions tied to this research. The chapter then includes an outline and justification of the research design, methodology and data analysis method, as well as the techniques for ensuring high-quality data is collected. The final sections of this chapter cover the ethical considerations associated with this research, as well as a chapter summary.

As discussed in previous chapters, a qualitative research approach is used in this study. This approach is due to the exploratory nature of the research, and as the data being collected encompasses thoughts, feelings, understandings and perspectives of New Zealand farmers and local government representatives. Aspects of the qualitative approach this research has taken are discussed in greater detail throughout this chapter.

Past literature has acknowledged the complexity of qualitative research, particularly the broadness of it, and that there are multiple definitions of qualitative research. Hence, there is no single definition or paradigm that can be applied to qualitative research (Denzin & Lincoln, 2011). However, a simple definition from Punch (2005) states that qualitative research is empirical research where the data being collected is not numerical. A more descriptive definition comes from Denzin and Lincoln (2011) where qualitative research is described as "a situated activity that locates the observer in the world" (p. 3), and is made up "of a set of interpretive, material practices that make the world visible" (p. 3). Qualitative research is said to involve an interpretive, naturalistic approach to the world, as it attempts to represent the world through observations, interviews, conversations, photographs and recordings (Denzin & Lincoln, 2011).

3.2 Ontological and Epistemological Considerations

Prior to conducting any research, a clear understanding of the philosophy of research is essential. This understanding aids in constructing an in-depth and broad perspective of research. A clear purpose for the research can then be developed. A sound philosophical understanding of the research also details the reasoning and drive of the research and how it is carried out (Carson et al., 2001).

When the philosophical perspective taken in a given research project is established, assumptions relating to the nature of society and the nature of science are made (Burrell & Morgan, 1979). Objectivist and subjectivist are the two different approaches a researcher may take in terms of the nature of science, with four key assumptions defining whether a research approach is objectivist or subjectivist. These assumptions include the ontology (nature of reality), epistemology (nature of knowledge), human nature (whether people are the controller or the controlled) and the methodology of the research (Holden & Lynch, 2004).

Rosenau (1992) summarised that these four key assumptions discussed above relate to the "nature, validity and limits of inquiry" (p. 109). The assumptions for this thesis are discussed further in the coming sections.

3.2.1 Ontological Considerations

An ontological assumption implies whether reality exists externally to the researcher, or if reality is in fact determined internally by the individual (Burrell & Morgan, 1979). Ontology is defined as "the study of being, that is, the nature of existence and what constitutes reality" (Gray, 2014, p. 19). This definition indicates that reality can be investigated internally or externally, which is represented by either a positivist or relativist view. Positivists view the world as independent from their own knowledge, while relativists hold the perspective that there are numerous methods for accessing different realities, dependent on the individual.

Clearly, it is important to determine whether the individual holds a positivist or relativist world view, as it is reflected in their actions and answers (Burrell & Morgan, 1979). Existing research into the issues central to this thesis often included a positivist-based ontology, as this existing research included the assumption that reality is objective and waiting to be discovered, and that knowledge can be uncovered then communicated with others (Holden & Lynch, 2004).

3.2.2 Epistemological Considerations

A clear understanding of epistemology is essential, as it helps to identify what knowledge is both legitimate and adequate (Gray, 2014), or, what knowledge can be regarded as either 'true' or 'false' (Burrell & Morgan, 1979). Subjectivism, objectivism and constructivism are the three different epistemologies, determined by their differing theoretical underpinnings, and it is the responsibility of the researcher to firstly identify, then explain and justify their choice of epistemology (Crotty, 1998).

The constructivism epistemology emphasises that knowledge is constructed by an individual through their experiences and their engagement with realities and phenomena of the world (Crotty, 1998). Reality, therefore, is seen as a social construction from this perspective, as it "focusses on analysing the specific processes through which reality is created" (Morgan & Smircich, 1980, p. 497).

Pretty (1995) highlighted that local and individual actors' views on sustainable agriculture are incredibly crucial to any research in this area "as knowledge and understanding are socially constructed, what each of us knows and believes is a function of our own unique contexts and pasts" (Pretty, 1995, p. 1250). Šūmane et al. (2018) also highlighted the importance of farmers' differing views, knowledges and practices, using case studies to analyse and understand differing farming practices. This literature indicates that in order to achieve sustainable agriculture or at least strive to improve sustainability within agriculture, a wide-ranging base of individuals' knowledge and networks is required.

Based on the existing academic literature and the appropriateness of specific research approaches, a constructivist epistemological position has been adopted for this research. As the individuals involved in this study hold their understandings of their realities as well as the meaning of objects and concepts within their realities, a constructivist approach is appropriate. This research includes the assumption that an individual's perceptions of reality, as well as knowledge construction, is underlying in the culture and society that the individual lives and operates within (Crotty, 1998).

3.3 Theoretical Assumptions

This section details the theoretical assumptions underpinning qualitative research in order to explain the appropriateness of qualitative methodology within this research context. The key theoretical assumptions relevant to this research are explained in Flick et al. (2004) which stated that "Social reality is understood as a shared product and attribution of meaning" and that "Processual nature and reflexivity of social reality are assumed" (p. 7). Further to this, Flick et al. (2004) also stated that "'Objective' life circumstances are made relevant to a life-world through subjective meanings" (p. 7) as well as "The communicative nature of social reality permits the reconstruction of constructions of social reality to become the starting point for research" (p. 7). Qualitative research is based on these four assumptions.

Flick et al. (2004) defined social reality as "the result of meanings and contexts that are jointly created in social interaction" (p. 6). As these concepts are not defined as directly relating to one theoretical assumption or methodology, they are seen as foundations of qualitative research overall. The purpose of much qualitative research, generally, is to gain an understanding of the participants involved through firstly understanding the meanings, concepts, ideas and experiences of the participants in their terms (Spiggle, 1994). However, this understanding only generates a single 'layer' of meaning, with other conceptual layers required in order to build true meaning (Wallendorf & Brucks, 1993). The gathering of this understanding is summarised succinctly in the following quote from Spiggle (1994): "We may grasp their meanings and experiences by translating between their "text" (e.g. a passage in an interview) – the target domain, the distant text – and our own experience, knowledge, and ideas – the source domain" (p. 499).

As discussed above, this research has taken a constructivist approach. Concepts and theories are produced by research participants explaining their experiences to not only the researcher but to themselves, according to a constructivist approach. Analysis of these constructs and explanations then lead to the formation of knowledge (Strauss & Corbin, 1990). The idea of constructing reality is expanded on in Given (2008) as reality can be seen as relative, multiple and not governed by natural laws, as individuals construct their own knowledge through learning and experiences. Given (2008) also explained how joint construction, between the researcher and the participant, results in insight and understanding of the topic, ideas, concepts and phenomena being investigated.

The context of this research, to explore ways to improve communication and engagement between farmers and regulators (local and central government specifically), has determined a constructivist approach as being the most appropriate approach for this research. This research investigates and explores specific areas that are yet to be researched in this focussed manner. In order to generate relevant and useful findings, it is essential to understand the different knowledges and truths of the individuals participating (Baghramian & Carter, 2015). The resulting findings will provide insight into the perceptions, views and practices of New Zealand farmers, as well as views and knowledge of local government representatives, allowing for the adaptation of improved communication and engagement techniques between the two groups. Therefore, a constructivist approach will be essential to understanding and interpreting the individuals' realities without being impeded on by external elements and pressures.

3.4 Methodology

For any research to be valid, a clear and appropriate methodology is required. The aspects of this methodology must be aligned with the assumptions laid out in prior sections, including the ontological, epistemological and theoretical assumptions (Holden & Lynch, 2004). A clear and accurate methodology should cover all aspects of the research process being used to understand the phenomenon of interest, including any choices and decisions made about the particular methods used, and the outcomes desired by the researcher (Crotty, 1998). An appropriate qualitative research method has been chosen by the researcher for this thesis, based on the appropriateness of the constructivist approach for this research area. Holden and Lynch (2004) stress that consideration of the intention of research as well as the scope of research must be considered when deciding upon an appropriate methodology, as failure to do so could lead to invalid results and findings. Therefore, the following sections will explain the chosen methodology for this research, which includes the use of semi-structured interviews for data collection, and thematic analysis as the chosen data analysis tool.

3.5 Research Design

Generally, the goal of most research is to produce valid, reliable, and useful results. Numerous forces help ensure this is achieved, including the use of a clear and purposeful research design, allowing for consistency between the research methods employed and the research question(s) (Ritchie et al., 2013). Part of the research design for this thesis includes the development of overarching, guiding research questions. These research questions must be neither too broad, as it can be challenging to plan and implement research, or too narrow, as this can restrict and limit the research (Flick, 2004). The guiding research questions for this investigation are listed below:

1. What are farmers' understandings of sustainability?
2. How does this understanding influence their practices and behaviours?
3. How do farmers interact and engage with local and central government?
4. How can farmer-government interaction and engagement be improved through marketing techniques?

These questions helped guide the overall research process and the development of the interview questions. This research is exploratory and therefore, qualitative research methods have been employed by the researcher. Primary data was collected through a series of semi-structured interviews with farmers and local government representatives from the Canterbury and Hawke's Bay regions of New Zealand. Analysis of the data was conducted using thematic analysis. Further discussion and justification of the primary data collection and analysis are contained in the following sections.

3.6 Data Collection

Careful planning was carried out before any data was collected as part of this research project. The following sections detail how participants for this study were identified and selected, and how data was collected from the sample, and later analysed.

3.6.1 Sample Criteria

Setting strict sampling criteria is essential for ensuring the data collected through research can be a fair representation of the studied population. A poorly constructed sample (including inappropriate sample size) can lead to inaccuracies in the data and can reduce the overall quality of the research (Bartlett et al., 2001). Sample criteria were required in this research to ensure the participants interviewed were suitable, in that they held knowledge on sustainable agriculture and farmer-government interaction. Additionally, suitable sample criteria can also help any future research in this area gather similar results (Merkens, 2004). Previous research such as Bernard and Spielman (2009) and Holmes (2019) demonstrate the importance of research focussed on the members of the farming industry, while other works including Ingenbleek and

Meulenberg (2006) and Šūmane et al. (2018) emphasise the importance of using sample criteria to generate an appropriate sample of cases to be investigated.

For this study, there are two different types of participants, the first being New Zealand farmers. It was decided that these farmers must be from either the Canterbury or Hawke's Bay regions of New Zealand. Canterbury respondents were appropriate due to their proximity to The University of Canterbury, maximising the limited time and expenditure budget of this investigation. Other participants were sourced from the Hawkes Bay region as the researcher holds a close connection to the land there, with numerous family farms in the region, and a pre-existing network of expert farmers.

Initially, the researcher had hoped that by sourcing respondents from two different regions, some differences in local government policies might be identified as well as the reactions to these regulations from farmers in different regions, providing some variety in the qualitative data and allowing for comparison between the two. However, due to the difference in response rates from the two regions (detailed further below), few comparisons could be made. Further justification for sampling respondents from these regions is the fact that Hawke's Bay is one of the largest agricultural regions in the North Island in terms of total stock numbers. At the same time, Canterbury is by far the largest agricultural region in the South Island and New Zealand overall, based on total stock numbers (Stats NZ, 2019). These regions are experiencing severe negative environmental impacts due to the high stock numbers. Therefore, respondents from these regions have an adequate level of experience and expertise to provide meaningful and insightful responses to the interview questions.

The farmers sourced for this research were either farm owners or managers, but not general farm employees such as shepherds, as these individuals lack the decision-making capability of owners and managers. Farmers participating in this study had to be responsible for significant farming operations, where the primary source of income was from farming practices. These criteria exclude smaller, hobbyist farming operations such as lifestyle blocks. Aside from this factor, the farms did not have to be a particular type and could include different stock types including sheep, beef, dairy and deer farming operations. Horticulture and other land-based operations were excluded from the sample, as the impacts of livestock were the primary concern leading to this research. Other farming operations such as chicken and pig farming were excluded due to the intensive/indoor nature of those operations, and to ensure the research field did not become too broad.

The other participants in this study were representatives and employees of the regional councils of Canterbury (Environment Canterbury/ECan) and Hawke's Bay (Hawke's Bay Regional Council/HBRC). All farmers and local government representatives were required to be over 18 years of age to participate in the study due to ethical considerations. With these sample criteria in place, it was the view of the

researcher that useful and rich data would be gathered from participants which was then analysed and used to attempt to answer the underlying research questions listed in the previous section.

3.6.2 Sample Recruitment

Participants were recruited under the sampling criteria laid out above. Participants were sourced from the Canterbury and Hawkes Bay regions. A mixed approach of sampling strategies was used to recruit participants. Firstly, a post detailing the research project, the sample criteria and other information such as the offer of a $20 supermarket voucher incentive, as well as the researcher's contact information, was posted to a widespread farming Facebook page, NZ Farming. This post urged readers from the Canterbury and Hawke's Bay regions to contact the researcher if they wished to participate. Secondly, pre-existing networks of the researcher were used to gather further participants that met the sample criteria, as the researcher was raised and worked in rural Central Hawke's Bay. Thirdly, direct contact was made with both ECan and HBRC. This contact was through email, again detailing all relevant information to the research and asking for participants. Participants were offered a $20 supermarket voucher as an incentive and a gesture of appreciation. However, many participants declined to accept. Once participants expressed interest in the research, they were each sent the Information Sheet (Appendix 1) which contained all relevant information to the research, before interviews were carried out.

Responses and interest were fielded from multiple farmers and regional council representatives from both Canterbury and Hawke's Bay. Most farmers expressing interest were from Hawke's Bay, with a total of sixteen individuals being interviewed. Of the eleven farmers, seven were sourced through the researcher's personal network, with four interviewees contacting the researcher and expressing interest after viewing the Facebook post. Only one Canterbury farmer expressed interest in this study. This lack of response to the Facebook post drove the researcher to utilise their network more than initially planned.

3.7 Method- Semi-structured Interviews

An appropriate data collection method is essential to producing reliable and accurate data for analysis. According to Taylor et al. (2015), in-depth interviewing is an appropriate research method when research interests are clear and well defined; the setting or people are not otherwise accessible; the researcher is limited by time constraints, and the researcher is interested in understanding a broad range of settings or people. This research project has a precise aim and research questions as discussed in previous sections, at time of writing the thesis is expected to be completed by June 2020, and the research explores the views and opinions of a range of farmers and local government representatives from two New Zealand regions. Hopf (2004) also details numerous advantages to using semi-structured interviews, including the ability to gather information on particular meanings, motivations, theories and interpretations as well as the

understandings and knowledge of participants. The opportunity to investigate opinions, perspectives, thoughts and feelings of participants on personal or complicated topics, with further discussion and clarification allowed when required, is another strength of semi-structured interviews (Barriball & While, 1994). Hence, in-depth interviews are an appropriate method for gathering the primary qualitative data for this research.

As the interviews are semi-structured, there is a written list of questions, available in Appendix 4, which guide and direct the interview to ensure the key areas of interest are addressed. However, there is also an element of flexibility to the interview process, as the semi-structured nature allows for follow up questions and probing of areas of interest. The interview can be steered away from the core line of questioning for a time if they see fit, and allows for conversation-style discussion on areas that may have otherwise been missed (Cavana et al., 2001). The interviewer can maintain the flow of the interview, cover critical areas of interest, and investigate areas of interest they may not have been aware of before commencing the interview. Additionally, the flowing conversation style of the interview helps to ensure that the interviewee is comfortable. This flow is further aided by general background questions to begin the interview, before delving further into key issue questions on sustainability and farmer-government interaction.

Through the qualitative interviews, the researcher hoped to identify key themes and areas of interest including information about the level of public interaction farmers participate in, how they react to specific marketing and communication strategies, and whether the current levels of consultation and communication between farmers and government is appropriate. Prior research into sustainable agriculture and the pressures on the New Zealand farming industry (covered in the introduction and literature review chapter) provided background information and drove the development of the research questions and interview questions, available in Appendix 4. Throughout the interview process, it became apparent to the researcher that specific questions needed to be modified or added to help ensure meaningful and insightful responses were gathered from the interviewees. These adjustments to the interview questions are shown in Appendix 3 (Initial Interview Run Sheet) and Appendix 4 (Final Interview Run Sheet).

Once contact had been made with participants who met the sample criteria, the Information Sheet was provided, and if the individual was still willing to participate, a suitable time and location for the interview were arranged. This arrangement occurred either via phone call or email communication. Times and locations were selected by the participants, as this ensured the interview would be occurring in a time and space that they were most comfortable. Prior to the interview commencing, the participants were provided with a copy of the Consent Form, which was then read and signed by the participant. A $20 supermarket voucher was then offered to the participants. The researcher travelled to the locations chosen by the participants, with one interview being conducted via a Zoom conference call. The audio of all interviews

was recorded, with permission from the participants, allowing for later transcription and further analysis as part of the research process.

The interviews were designed to last approximately one hour, but due to differences in the participants, actual interview times varied. The shortest interview length was twenty-six minutes, while the longest interview lasting one hour and five minutes. Once a point of saturation was reached within an individual interview, when no new information or themes were being generated (Goulding, 2005), the participant was asked if they had any further comments they wished to make, or if they had any questions for the researcher. This resulted in further discussion, or if no new information was discussed, the interview was ended.

Previous research into data saturation suggests that saturation often occurs with the completion of twelve interviews (Guest et al., 2006). Therefore, it was appropriate to set a minimum of 12 interviews for this research. Additional interviews were carried out because participants were sourced from two different groups, farmers, and local government representatives. Previous research using a similar methodology utilised a similar number of participants (Banerjee, 2001; Heath et al., 2011), as well as case study based research that involved an interview process (Ingenbleek & Meulenberg, 2006; Šūmane et al., 2018). One interview involved a father and son who worked alongside each other in their farming operation. Therefore, the total number of interviews was fifteen, with sixteen interviewees in total. It was essential to reach data saturation in this research, with a minimum of 12 interviews being required (Goulding, 2005; Guest et al., 2006), and the researcher was satisfied saturation had been reached with the completion of the sixteen interviews. All participants were male and of varying ages over the age of eighteen years. Further descriptive information of the participants in this study can be found in Table 1 below.

The timeframe of the interviews, as well as the number of interviews, resulted in the research remaining within the overall scope and timeframe set by the researcher. Interviews were completed between the 11th of November 2019 and the 4th of December 2019.

The series of semi-structured interviews were used to gain raw data that would be later analysed to gather a range of perspectives and themes surrounding sustainable agriculture and farmer-government interaction. The sample of participants included farmers ranging in age, farm size and type of operation, location, years of experience as well as a range of local government representatives from varying roles within Environment Canterbury and the Hawke's Bay Regional Council. Table 1 below provides a summary of the sample who participated in this research.

Code	Participant	Farmer/regional councilor	Farm size (ha)	Farming operation/role
HBF1	Bob (70)	Hawke's Bay Farmer	558	Farm owner (Sheep, beef and deer)
HBF2	Bill (59)	Hawke's Bay Farmer	610 (manager) 125 (owner)	Farm manager (sheep and beef) Farm owner (beef)
HBF3	Sam (46)	Hawke's Bay Farmer	740	Farm owner (Sheep, beef and deer)
HBF4	Ben (50)	Hawke's Bay Farmer	11,000 (across nine properties)	Farm owner (sheep and beef) Manager of farming business (sheep and beef)
HBF5	Dave (52)	Hawke's Bay Farmer	464	Farm owner (sheep and beef)
HBF6	Chris (40)	Hawke's Bay farmer	1164	Farm owner (sheep and beef)
HBF7	Corban (35)	Hawke's Bay farmer	700	Farm owner (sheep and beef)
HBF8	Fergus (29)	Hawke's Bay Farmer	600	Farm manager/shareholder (sheep, beef and deer).
HBF9 HBF10	Finley (49) & Jack (21)	Hawke's Bay Farmers (Father & Son)	220 550	Farm owner (dairy) Farm manager (dairy breeding, sheep and beef)
CF1	Jim (49)	Canterbury Farmer (Amberley)	Two separate blocks: 1000 and 40	Farm owner (sheep and beef, stud horse breeding operation)
HBRC1	Lewis	Hawkes Bay Regional Council	NA	Elected Councilor
HBRC2	Mac	Hawkes Bay Regional Council	NA	Catchment Manager
HBRC 3	Matt	Hawke's Bay Regional Council (Mahia)	NA	Catchment Manager
ECAN1	Marcus	Environment Canterbury	NA	Senior Manager Service Delivery
ECAN2	Oscar	Environment Canterbury	NA	Lead Advisor for Special Projects

Table 1: Summary of Participants

3.8 Transcription

Upon completing the interviews, transcription was carried out by the researcher, converting the audio recordings into written documents detailing the conversation between the interviewer and each interviewee. Transcription has been described as "the graphic representation of selected aspects of the behaviour of individuals engaged in a conversation" (Kowal & O'Connell, 2004, p.249). Transcription is essential as it aids in the analysis of the raw data, having the conversation in a written format. Additionally, transcription allows a once temporary conversation to become permanent and reusable once in written format, detailing all relevant information to the research (Kowal & O'Connell, 2004). The researcher ensured that all personal data was secured and not shared and took every precaution to ensure the security and privacy of the raw data were maintained, in line with the ethical standards applied to this research.

3.9 Data Analysis - Thematic Analysis

Thematic analysis was chosen by the researcher as the most appropriate analysis method, due to the nature of the research and the data it involves. The researcher followed the guidelines for thematic analysis set out in Braun and Clarke (2006), which details a six-step process to thematic analysis: the researcher familiarising themselves with the data, generating initial codes for grouping/categorising the data, searching for themes within the data, defining and naming these themes, before the final stage of the writing a report containing the findings.

As thematic analysis is the chosen data analysis tool for this research, it is essential to have a clear understanding of what thematic analysis is. One of the more concise definitions of thematic analysis available comes from Braun and Clarke (2006): "a method for identifying, analysing and reporting patterns (themes) within data… minimally organises and describes your data set in (rich) detail… and interprets various aspects of the research topic" (p.79). Braun and Clarke (2006) go on to state that thematic analysis is a widely used method of qualitative analysis for the reasons listed above. The ability to compare and contrast themes discovered in the data is also a strength of this method of analysis (Braun & Clarke, 2013).

This research will be interpreting experiences of individuals, which, according to Spiggle (1994), will always be subjective by nature. Thematic analysis is an effective method for analysing individuals' experiences as it draws out patterns and themes that hold importance to the individuals participating in the research (Daly et al., 1997). Thematic analysis can also help identify patterns in the collected data, that will then serve as categories for further analysis (Fereday & Muir-Cochrane, 2006). The researcher believes thematic analysis will produce insightful and accurate findings for this thesis, based on the evidence and arguments from existing literature and the research topic and context.

Another strength of thematic analysis is that it is a theoretically flexible approach. This means that it can be applied to numerous different research projects because it is not tied directly to one single theoretical or epistemological assumption (Braun & Clarke, 2006). Thematic analysis can investigate themes and patterns regardless of language or other frameworks used to explain behaviour (Braun & Clarke, 2013). Therefore, thematic analysis can be relatively easily applied to this research topic.

Bruan and Clarke (2006) also outline specific decisions that must be made during thematic analysis including what constitutes a theme, how closely aligned the method of analysis is with the ontological and epistemological assumptions, and whether an inductive or theoretical analysis is to be used. Patton (1990) explained that an inductive approach identifies themes strongly linked to the data, and the coding of this data is not applied to an existing theoretical framework. Conversely, a theoretical approach sees the researcher directing the coding of the data, based on their theoretical interests (Braun & Clarke, 2006).

How themes are analysed can fall into either a semantic or latent approach. This research will take a latent approach as this means that the underlying assumptions, ideas, ideologies and conceptualisations that shape and influence the raw data (Braun & Clarke, 2006) will be analysed, not just the data itself. This research aims to look for deeper meaning from the data, not only the semantic data, which suggests that any data recovered from participants is taken at face value. The research looks to understand why participants make the comments they do and what motivates their statements and behaviours. Latent themes are therefore generally of a constructivist nature. As previously discussed, this research has taken a constructivist stance. Therefore, the latent approach is in line with the epistemological assumptions of this research.

For the reasons listed above, the researcher has chosen thematic analysis as the most appropriate method for analysis of the collected data.

3.10 Evaluating Data Quality

Data and information are deemed to be of high quality if it is "fit for their uses (by customers) in operations, decision making, and planning" (Redman, 2008, p.56). However, in existing literature, there has been some debate surrounding how qualitative data can be identified as high quality or not. This debate stems from the differences between qualitative data and quantitative data, with quantitative research generally producing definitive, reliable results (Guba & Lincoln, 1981). Qualitative data has been described by some academics as complex when compared with quantitative data, which has led to further debate around how best to measure the quality of qualitative data (Morse et al., 2002). Quantitative data is evaluated using measures such as reliability and validity. However, Guba and Lincoln (1981) have shown that substituting the concept of 'trustworthiness' for reliability and validity is an effective method for evaluating data quality in qualitative research.

The concept of 'Trustworthiness' will be used to examine the quality of the data utilised in this research, but firstly, the concept must be clearly defined. Trustworthiness comprises four different elements, all of which will be discussed further in the subsequent subsections; credibility, transferability, dependability and confirmability (Morrow, 2005), which will be discussed below As the concepts of reliability and validity are concerned with a single truth, it is appropriate to move away from these concepts and adopt trustworthiness as a concept of quality, due to the nature of this research. As previously discussed, this research involves the investigation and discussion of multiple truths, based on the participants' interpretation of reality (Lincoln & Guba, 1985).

3.10.1 Credibility

The first aspect of trustworthiness, credibility, is outlined as presenting the studied phenomena in its true picture, with the researcher ensuring the research measures, tests or investigates the area it intended to (Shenton, 2004), as set out in the research aim. Previous research has highlighted the difficulty in producing credible and trustworthy results when semi-structured interviews are used, compared to other methods, particularly quantitative research methods (Hopf, 2004). Thankfully, other literature suggests remedies to combat this challenge. Such literature includes Patton (1999), which identifies three separate yet related inquiry elements. These elements include "Rigorous techniques and methods for gathering high-quality data that are carefully analysed, with attention to issues of validity, reliability, and triangulation; The credibility of the researcher, which is dependent on training, experience, track record, status, and presentation of self; and Philosophical belief in the value of qualitative inquiry, that is, a fundamental appreciation of naturalistic inquiry, qualitative methods, inductive analysis, purposeful sampling, and holistic thinking" (Patton, 1999, p. 1190).

The researcher made every attempt to satisfy each of these elements in the research process. Firstly, the methodology, as discussed in previous sections, was carefully selected and justified as the most appropriate approach for this research. The credibility of the researcher is a reflection of their previous research experience, most of which stem from research assignments completed in the past. The researcher also attempted to maintain a professional and approachable appearance throughout the research process.

The flexible nature of semi-structured interviews (Cavana, Delahaye, & Sekaran, 2001) can also be considered a strength when the language and style of conversation used by participants is unique to the individuals. So long as the meaning conveyed throughout the interview, from the researcher's perspective, is consistent, the phrasing and style of questions can be adapted to produce reliable and valid responses (Hardie et al., 2012). These responses result in credible data that can later be analysed further. Patton (1999) also stresses that a rigorous technical approach to the research is essential to producing credible

results. Through the careful planning and implementation of the research process, in alignment with previous research, the researcher has ensured the validity of the research process, remaining credible and non-bias, whilst also encouraging meaningful, data-rich responses from the participants.

3.10.2 Transferability

Transferability refers to the ease in which the research context can be clearly understood by a reader, who could then apply the research context to their own environment with which they are familiar, as well as justifiably applying the findings of the research to other settings (Shenton, 2004). Therefore, transferability can be considered an essential contributor to trustworthiness. This concept is reinforced in Malterud (2001) where the author states that the aim of research is "to produce information that can be shared and applied beyond the study setting" (p. 485). While no research context can achieve universal transferability, all research would be deemed unusable if it were not transferable to some degree. Ultimately, it is vital for the researcher to consider transferability and the level of transferability of their research context when planning and undertaking the research, and analysing the data (Malterud, 2001).

The most common method for improving transferability in qualitative research is through the use of multiple contexts, drawing data from a range of environments (hence the use of two New Zealand farming regions during sampling) which can increase the generalisability of the results and findings (Spiggle, 1994). Extension of this are practices put forward by Baxter and Eyles (1997) that influence transferability criteria. One such practice is 'purposeful sampling' which refers to the careful selection of individuals to participate in a study, as driven by the sampling criteria and the research context. It is in this style of specific selection that 'purposeful sampling' differs from other methods such a random or probability sampling methods (Baxter & Eyles, 1997). Purposeful sampling was carried out in this research context, as the researcher ensured that all participants met the sampling criteria as set out in Section 3.6.1.

3.10.3 Dependability

Dependability primarily refers to whether future research can repeat or recreate the initial research (Shenton, 2004). Dependability has been a term used in place of reliability in qualitative research (Guest et al., 2014), the use of which was popularised in Lincoln and Guba (1985). Dependability can be defined as 'whether the research process is consistent and carried out with careful attention to the rules and conventions of qualitative methodology" (Ulin et al., 2005, p. 26), while Baxter and Eyles (1997) extend this further, suggesting dependability focusses on matching findings with contexts over space and time, highlighting the importance of maintaining a clear record of the research context. The researcher has strived to produce clear documentation of the research context throughout the research process. As the nature of this research and the researcher's interpretation of the data is subjective, dependability issues

arise. The themes and concepts of this research are subjective as they are interpreted by both the researcher and the participants. Incorrect or inappropriate data interpretation can directly result in a lack of dependability, typically stemming from insufficient, poorly defined analytical premises and constructs (LeCompte & Goetz, 1982). In order to mitigate these issues, the use of multiple researchers has been suggested as a solution to increase dependability (Baxter & Eyles, 1997; Lincoln & Guba, 1985). Therefore, a researcher supervisor has participated in this research, overseeing and analysing the research process, ensuring any issues resulting from misinterpretations or variances in interpretations are minimised.

3.10.4 Confirmability

Confirmability refers to a lack of bias resulting from the researcher's pre-existing perspectives in the results of the data analysis (Shenton, 2004). Likewise, Lincoln and Guba (1985) define confirmability as "the degree to which findings are determined by the respondents and conditions of the inquiry and not by the biases, motivations, interests or perspectives of the inquirer" (p. 290). However, in practice, it is difficult to remain free from biases throughout the entirety of the research process. Some small amount of bias is often unavoidable, mainly when the research and interviews are designed by humans (Shenton, 2004). This unavoidable bias is present in qualitative research, as the data from the human participants represent subjective perspectives, unlike absolute objective truth that quantitative research can produce. When drawing conclusions and insight from the observation, the researcher must make personal observations, meaning neutrality can be difficult to achieve (Patton, 1999).

While considered unavoidable, biases can still be limited and kept to a minimum through the use of numerous different approaches. Having the researcher keep a diary throughout the research process can help track any changes in perspective or any impact that the researcher's personal views have on the research. Additionally, having an external auditor monitor and assess the research can also be beneficial in attempts to reduce bias (Lincoln & Guba, 1985). To reduce bias in this research, the research supervisors from the university acted as auditors throughout the research process.

Aside from the use of an external auditor, focussing on the accountability of the researcher is also essential (Baxter & Eyles, 1997). By acknowledging the researcher's perspectives and motives, greater control can be gained over any biases this might produce. This acknowledgement, in turn, helps ensure the confirmability of the research. The researcher, therefore, must acknowledge their involvement in the farming industry. Being raised in rural New Zealand certainly encouraged a passion for farming. However, the researcher has also witnessed how unsustainable farming practices have impacted the natural environment of New Zealand. This exposure developed the motivation driving this research, but also experience within the agricultural industry has been advantageous to this study, in both forming networks

used in participant sampling, as well as aiding in understanding the individual farmers who were interviewed. Analysis of the gathered data was supported by reviewed literature and reported findings are not solely based on the researcher's understanding or interpretation.

3.11 Ethical Considerations

Ethical considerations must be carefully and closely monitored prior to and during any research process. It is the responsibility of the researcher to acknowledge and evaluate any ethical issues and concerns that may surround their research (Esterberg, 2002), or arise during the research process. All research undertaken met the guidelines set by the Human Ethics Committee at the University of Canterbury, with a copy of the approved low-risk ethics application available in Appendix 5. This research was free of any deception or issues of privacy invasion and did not pose any mental, physical or cultural risks to participants. All names of participants in the qualitative interviews were omitted, as well as company and farm names. Participation was entirely voluntary, with all participants informed of their right to remove any information they may have provided that they no longer want included. All participants were over the age of 18, with interviews lasting for a maximum of one hour. During the interview process, the researcher strived to remain professional and approachable to all participants, with the safety and privacy concerns of the participants taking a high priority.

Prior to conducting the interviews, participants received both an Information Sheet and a Consent Form, the latter of which they were asked to sign and return to the researcher. Information contained within the Information Sheet included details of the research and research topics, the intentions of the research and the contact details of the researcher and their supervisors. These contact details were provided to allow the participants to contact either the researcher or their supervisors if any questions arose. The Consent Form also provided information concerning what was required from the participant, information on their privacy and the security of data they provided. By accepting the conditions outlined in the Consent Form and signing, the participants gave the researcher permission to record the interview, and use the data for analysis and the production of this thesis (particularly findings and discussion), while also acknowledging that the data would be handled in a way that meets the privacy and security obligations laid out by the ethical standards associated with this research.

Participants were made aware of their right to change or withdraw any information they provided during the research process up to a given date, and that upon completion, the resulting thesis would become a publicly available document, being published and available through the university database. Participants were given a pseudonym with which they are referred to throughout the analysis and reporting of the data, with all identifying data including names and farm names being excluded. Identifying data was only available to the researcher alone, stored on password-protected devices. The primary supervisor of this

research will store the signed Consent Forms for five years. All participants gave their consent for the research process and its conditions. The low-risk nature of this research, and the careful consideration of all ethical considerations, has ensured that this research satisfies all ethical criteria.

3.12 Chapter Summary

This chapter has provided an explanation and justification of the research methodology used to investigate the concepts and issues outlined in previous chapters. This chapter has covered the ontological, epistemological and theoretical assumptions and considerations of the research. The choice of thematic analysis as the methodology was then discussed and justified using relevant past literature, before an in-depth discussion of the research design, sample criteria and the methods of sample recruitment. The use of semi-structured interviews for this research was also detailed and justified, with further discussion on the transcription and analysis processes. Standards for ensuring high-quality data was also outlined in this chapter, including discussion of the credibility, transferability, dependability and confirmability concepts. The final section of this chapter details all ethical considerations made by the researcher, as well as the methods for ensuring the ethical standards set out were met. With all aspects of the methodology of this research now covered, Chapter Four now details and explains the findings based on the data collected throughout the research process.

Chapter 4: Findings

4.1 Introduction

The purpose of this chapter is to summarise the findings of the interviews with farmers and local government representatives. As the concepts of sustainability and agricultural sustainability are crucially important to this research, the interviewees were asked to provide their perceptions of these concepts, using their perceptions as a base for further engagement. A definition of sustainable agriculture was also provided to interviewees to ensure a mutual understanding of the concept. Throughout this chapter, the themes are analysed alongside relevant literature, highlighting alignments and contrasts.

Of the six themes presented in this chapter, four relate to the responses provided by farmers, while the final two themes represent views and opinions of local government representatives. The critical themes summarised in this chapter are as follows: the motivations and influences of farmers, farmer's perceptions of agricultural sustainability, farmer perceptions of government, farmer perceptions of their engagement and communication with government (See Figure 1). The remaining themes relate to the responses provided by local government representatives and include government's role in sustainable agriculture, and the regional councils' perceptions of engagement and communication with farmers. Discussion of these themes is included later in this chapter.

Motivations and Influences	*Agricultural Sustainability*	*Perceptions of Government*	*Engagement and Communication with Government*
• Goals, Priorities and Values • Challenges • Information Sources	• Perceptions of Sustainability and Agricultural Sustainability • Practices, Initiatives and Behaviours • Motives for Sustainable Farming Practices, Initiatives and Behaviours • Celebration and Accountability • Climate Change	• Goals of the Regional Councils and Potential Alignment with Farmer Goals • Local and Central Government as Drivers of Sustainable Agriculture	• Involvement and Interest in Local and National Politics • Communication with Government Representatives • Effectiveness of Communication and Engagement • Representation

Figure 1: Key Themes and Contributing Factors (Farmer Perspectives)

4.2 Motivations and Influences of Farmers

Understanding the goals, aspirations, concerns of farmers was an integral part of this research. Before communication and engagement between farmers and government bodies could be analysed, the researcher aimed to gather the information that would provide insight into the values and beliefs of farmers, as well as the many different sources of information that influence their farming practices and behaviours. This section summarises the key topics discussed by farmer interviewees regarding their goals, the challenges they face individually and as an industry, as well as their sources of information and influence.

4.2.1 Farmer Goals, Priorities and Values

For many of the farming participants, there was not one single goal they hoped to achieve in their farming operation. Instead, there were many interconnected goals, with some responses indicating a hierarchy of goals, or a process through which the achievement of one goal could lead to the increased likelihood of success in another area. Four key generalised goals were identified, with all farmers indicating they hoped to achieve either one, all, or a mix of the following: farm succession and passing on the property to their family, quality stock production, maintaining or increasing profit and reducing debt, and preservation of the land and environmental improvements.

The single most commonly referenced goal for farmers was to be profitable and reduce debt, with ten out of the eleven farmers stating profitability as either their top priority or a secondary goal. In some instances, profitability was considered to be a secondary goal to farmers, as the achievement of profit then enabled them to undertake sustainable initiatives or maintain their ideal rural lifestyle.

> "*long-term profitability. Secondly to that would be to leave what we've got in a better state than what we acquired it in. I suppose everything feeds off it being profitable because if we're profitable; (A) I can have a lifestyle, (B) I can leave it in a better state."* Sam (HB Farmer)
>
> "*So to be sustainable, you need to have some money, or else you'll fail as a farmer, and you won't be farming. The more successful you are, the more sustainable choices you can make."* Finley (HB Farmer)

Other interviewees considered sustainable farming outcomes as a top priority, which would then lead to increased profitability achievements, highlighting the different ordering of the goals, considering these goals as more of a process. This view is reflective of the report by MPI (2019), which outlined that 92% of farmers are focused on improving environmental sustainability on their farms.

> *"Sustainable production, while maintaining profitability and producing nutrient-dense food."* Fergus (HB Farmer)
>
> "*It often gets said; we want to leave the land in a better place than we found it and that's kind of the goal."* Jim (Canterbury Farmer)

The goals and priorities of farmers align with discussion in existing literature, with profits and productivity listed as the main driver of business activity (Hall, 2018). The incorporation of other sustainability-based goals and priorities also aligns with the literature suggesting that sustainable initiatives can lead to improvements in productivity and competitiveness (Bansal & Roth, 2000).

4.2.2 Challenges for New Zealand Farming

Building upon the previous theme of goals and priorities, is an analysis of challenges that farmers see as impacting their farming operations, their ability to achieve their goals, and the New Zealand agricultural industry as a whole. The responses from farmers were grouped into three sub-themes, environmental challenges, regulation and compliance challenges, and cultural challenges.

The first group of challenges is explicitly related to environmental challenges, including the risks of climate change and adverse weather patterns. This view reflects the findings in the report from MPI (2019), which indicated that 63% of farmers expressed interest in further information or advice about improving resilience to climate change.

> *"The weather is always a big issue, it always has been, but it seems to be throwing more curveballs than anything these days. And then you've got pests and things coming on, different forms of pests and drench resistance."* Bill (HB Farmer)
>
> *"Key issues is trying to try to work with our environment a lot more, that's what I see… because it's a very summer dry and winter wet property that I'm on so we got to work to those limiting factors and try not try not to destroy the environment at the same time."* Corban (HB Farmer)

The second area of concern for farmers, and the most commonly referred to by the interviewees, was the ever-increasing challenges of regulation and compliance, and its flow-on effects for farmers. These flow-on impacts and challenges include the increasing cost of compliance. Some interviewees held the fear that in order to be compliant with new regulations, there would be both high financial and time-related costs.

> *"Compliance is a short- and long-term thing. Compliance costs and the hassle factor of that. Seems to be getting harder to fill out these forms and they seem to be getting more complicated."* Bill (HB Farmer)
>
> *"…there's going to be compliance and it's going to be with regulations and actually managing those regulations and being within parameters that enable us to still be profitable and still produce product that the world wants."* Ben (HB Farmer)

The third group of challenges were labelled as cultural challenges. This area includes the rural-urban divide quoted by the majority of farmer interviewees as well as the pressure generated through misrepresentation

of the New Zealand agricultural industry through mainstream media. Farmers expressed their frustration over how the media seeks to portray farming in a bad light, taking stories out of context and knowing that bad news will always sell better than good news.

> "*There is a growing lack of understanding of how farms work… because the rural-urban divide has been increasing… The noisy minority tends to create unintended consequences, and the noisy minority just isn't backed up by market signals"* Jim (Canterbury Farmer)
>
> *"There's a real disconnect between bureaucrats and farmers."* Dave (HB Farmer)

4.2.3 Farmer Information Sources

It was essential to this research to gauge what information sources farmers use and what areas influence their practices and on-farm behaviours. This understanding can then be compared alongside the responses around the different media channels and communication methods that farmers respond best to, in order to help improve the communication and engagement between farmers and regulators.

The farmer interviewees quoted numerous sources of information, with the majority of responses sharing some level of overlap. In addition, the researcher discovered some dislike of the mainstream media and print media. Some farmers held a certain level of mistrust towards mainstream media due to the increasing emphasis on entertainment instead of informing as the primary role of television news and media producers.

> *"I don't watch much television news because it's a waste of space"* Bob (HB Farmer)

Some farmers stated that they still rely on more traditional sources of information such as print media and radio but also integrated online platforms into their source material.

> *"I do a lot of reading. I'm basically on the internet all the time. Less and less hard copy stuff now, in fact, I hate hardcopy stuff. It's a pain. Radio, still listen to the radio. Mainly on the internet."* Ben (HB Farmer)
>
> *"I read a lot of books… I do dive into papers once in a while and also Quorum Sense, the Facebook group"* Fergus (HB Farmer)
>
> *"They do some quite good podcasts as well…Farming papers, Country Wide is a great magazine. And even on Facebook and the internet, you see some quite good articles."* Jack (HB Farmer)

Professional and personal networks, including family members, connections with political organisations and suppliers of farming inputs, farm consultants and farm discussion groups were also quoted as providing information to farmers.

> *"The fertilizer companies give you free advice as part of their package… my dad, some cousins, they're all farming, and we talk."* Jim (Canterbury Farmer)

"AP groups or discussion groups… talking to neighbours, talking to other industry members whether it be other farmers or whether it be providers within the industry, experts in their field." Sam (HB Farmer)

"We use FARMAX from a production side of things… I founded a farm discussion group. We're all millennials. We share things around that as well." Fergus (HB Farmer)

4.3 Agricultural Sustainability to Farmers

This section details the themes concerning the farmers' views and opinions of sustainability and agricultural sustainability. These themes include farmers' understandings of key concepts, how they implement sustainable behaviour in their operations, their motives for sustainable farming practices, the impacts of regulation and good management practice on practices, and tools for improving the uptake of sustainable farming practices.

4.3.1 Farmers' Perceptions of Sustainability and Agricultural Sustainability

The concepts of sustainability and agricultural sustainability are both central to this research. The definition of sustainability used comes from The Brundtland Report (1987), where sustainable development was defined as "development that meets the needs of the present without compromising the ability of future generations to meet their own needs." (The United Nations, 1987, p. 41).

During the interview process, the researcher asked farmers for their definition or understanding of firstly sustainability and then agricultural sustainability. Initially, the researcher had hoped to separate farmers' understandings of sustainability as an overarching concept before delving into the understandings and perceptions of sustainable agriculture. However, when asked for their understanding of sustainability, the majority of farmers gave their perception within an agricultural/farming context, without being prompted. Farmers generally discussed concepts of resource use and protection, including maintaining profits, the natural resources of their farm (soil, nutrients and water particularly), their mental resources and concepts of the rural New Zealand culture. Planning and future viability were also concepts discussed under the idea of sustainability and sustainable agriculture by farmer interviewees. A summary of these themes is provided in the quotes below.

"*Sustainability means being financially viable in the future and now and also means environmentally, the farm is sustainable and supporting itself, it's not going backwards environmentally."* Bill (HB Farmer)

"a production system that delivered a profit for me on a consistent basis, that's annually, without the degradation of my physical or mental resources. That's land, that's human resources, everything that we use to drive our business, so that's ethical treatment of animals there's no

degradation of the land, there's no degradation of the people involved in our business…" Sam (HB Farmer)

Three of the farmers interviewed also acknowledged the variability in defining concepts of sustainability and sustainable agriculture, discussing ideas around the context that these concepts are placed within. Farmers also referred to what goals individuals were trying to achieve when referring to sustainability and sustainable agriculture.

*"It depends what the end goal is. For me, sustainability is about improving your farm and leaving it in a better shape than you found it. You want to look after your animals… Not f*** your water, your rivers and creeks…"* Dave (HB Farmer)

"There's so much difference. Some people may look at it as profitability, maintaining their family." Fergus (HB Farmer)

A key term that was mentioned by some farmers was regenerative agriculture. Responses indicated that farmers disagreed with the general understanding of sustainability. Regenerative agriculture refers to farming principles and practices that attempt to increase biodiversity, enrich soil resources as well as protect waterways, while offering increased yields, resilience to climate change and improved health for farmers and farming communities (Terra Genesis International, 2016). These farmers saw regenerative agriculture as an alternative concept that was more appropriate to New Zealand farming and a more suitable goal to work towards, summarised by the quote below.

"I think we should be looking at regenerative farming. And if defined regenerative farming, it's simply improving the asset that you're on. I think being sustainable isn't good enough." Ben (HB Farmer)

"The use of the word sustainability is absolutely abused because you just can't have it. You need to stop population growth. You need to stop having more of what you're doing… There's increasing talk about regenerative agriculture, and that's great because that stuff is sustainable" Jim (Canterbury Farmer)

In interviews where the researcher sought further description and discussion of these concepts, a definition of sustainable agriculture from Pretty (2008) was provided to the interviewees; "sustainable agriculture is the need to develop technologies and practices that do not have adverse effects on environmental goods and services, are accessible and effective for farmers, and lead to improvements in food productivity" (p. 229-30). The researcher then asked farmers if they agreed with this definition and if they had any comments to add to this definition. Most interviewees replied with a simple yes. However, some of the farmers added comments about the productivity aspect of this definition, summarised below:

"*Productivity yes, it can keep improving, but as long as it doesn't detriment the environmental sustainability of the farm, so there's a happy medium there."* Bill (HB Farmer)

"*It would have to be improving productivity whether that's reducing expenses rather than gaining in production, or whether it's creating a better quality product so that it drives a better price… it can be about quality or can be about differentiation…"* Sam (HB Farmer)

Ultimately as these findings have shown, across the range of farmer interviewees, there is a broad and generalised understanding of sustainability, with most farmers using their farming operation and experiences to conceptualise sustainability as a whole. Those with less understanding of the definitions of these concepts have sought alternative concepts and frameworks such as regenerative agriculture to help them direct their farming practices and sustainable-based farming initiatives, with the following section discussing examples of on-farm behaviours and practices these interviewees employ to help achieve their environmental goals.

4.3.2 Sustainable Farming Practices, Initiatives and Behaviours

As the researcher attempted to build a picture of what sustainable farming meant to interviewees, the question of how exactly sustainable agriculture is enacted arose. In order to develop useful communication and engagement for future changes to policy and practice, it is crucial to understand what farmers are already doing in an attempt to be more sustainable, and the reasoning behind those management decisions. This section discusses the varying sustainable farming practices and initiatives this sample of farmers are currently undertaking or are planning to implement.

The most commonly referred to practices included the fencing off of waterways for water protection and planting of both exotic and native trees and shrubs for various purposes including carbon sequestration, erosion control, stock shelter, increased biodiversity and as riparian planting. The protection of existing native plants on properties was also discussed by those farmers who had properties with existing native bush.

"There is some regenerating native bush that we don't want to damage… it increases the biodiversity gives more birds, more bees, more shade for the animals to sit in." Jim (Canterbury Farmer)

"…we annually plant poplars and poles, couple hundred every year. We annually plant 500 to 1000 natives every year." Sam (HB Farmer)

"We've had our main waterway fenced off for the last 100 years, mainly because it's a stock hazard. We actually reduced down our stocking rate" Chris (HB Farmer)

Other practices interviewees termed as sustainable initiatives included nutrient management and soil protection through monitored fertilizer use, proper stock management and exclusion of stock from sensitive/high-risk areas on-farm, pest control efforts, and the use of farm environmental plans (FEPs),

nutrient plans and farm mapping. The avoidance of pugging, when heavy stock churn up and degrade soil quality in wet and muddy areas was also mentioned by some farmers, which is a focussed example of good stock management. FEPs typically include details that influence other activities already, listed, but in a more formal and enforced manner.

> *"Nutrient budgeting, looking at what you're putting on, not over-fertilizing... not overstocking, keeping stock out of waterways..."* Bill (HB Farmer)
>
> *"I'm mindful of pugging because it's just not good farming practice."* Chris (HB Farmer)
>
> *"We do nutrient budgets. We do whole farm plan budgets and plans… With the fertilizer now it's pretty strategically used, with soil testing, monitoring and application maps."* Finley (HB Farmer)
>
> *"The farm environmental plans have formalised what we've been doing anyway… a little bit more focused and a little bit more planned out… It's about fencing and retiring areas that livestock shouldn't be farmed in."* Ben (HB Farmer)

Some interviewees also referenced reducing the tillage that occurs on farm, reducing their carbon emissions and looking to reduce their reliance on cropping and using pasture-based systems.

> *"We're transitioning to a straight pasture-based system. And a very diverse pasture sward. We do have a re-grassing program, but it's actually helping us move forward away from just a rye grass-clover system to a more polyculture…"* Fergus (HB Farmer)
>
> *"We don't use as many crops as we could. So it's a grass-based, pasture-based system. Low-tillage."* Jack (HB Farmer)

Typically, the farmer interviewees used a combination of different approaches in order to make their farming operations more sustainable. The initiatives listed by farmer interviewees reflect the examples of sustainable initiatives listed by Bansal and Roth (2000) including the reduction of energy consumption and waste generation, the use of sustainable resources and implementing an environmental management system. Links between these generalised initiatives can be made with the farming practices and behaviours discussed by interviewees. For example, farm environmental plans are an example of an environmental management system, while low-tillage is an example of a reduction of energy consumption.

4.3.3 Motives for Sustainable Farming Practices, Initiatives and Behaviours

This section elaborates further on the driving motivations behind the farming practices discussed in the previous section, including regulations and non-regulatory decision making, the personal values of farmers, good management practice (GMP), and financial incentives from local government.

When discussing the main reason why farmers tend to engage in sustainable on-farm practices and initiatives, interviewees described the difference between enforced regulation from industry bodies and

local government and their personal choice due to their sustainability-based values and good management practice (GMP). Eight of the eleven farmers interviewed gave responses indicating that most if not all of their on-farm sustainable efforts were driven out of their values, often combined with the ideas that these efforts could improve productivity and lead to increased profits and farm value in the long term. Closely linked to this was the ideas of maintaining a high-quality rural lifestyle, incorporating family values, stock welfare and good animal husbandry, and the aesthetics of the farm environment. Responses that referred to good management practice and farmers' personal values closely align with the discussion from Bansal and Roth (2000) where the motivations for adopting environmentally friendly practices included competitiveness (the potential for improving their profitability long-term), legitimation which refers to how firms looked to improve their actions and decisions concerning regulations, norms and values, and ecological responsibility, as managers may already have a set of internal personal values that they then implement within their business. The personal choice and GMP based responses are summarised below.

> *"If it's done from a regulatory point of view, it's done for the wrong reason. It's got to be done as a matter of personal choice really… you have a responsibility to leave the land in a better situation than when you got it."* Bob (HB Farmer)
>
> *"Generally we find we're way ahead of the regulation… It doesn't bother me the regulation because we're ahead of it."* Ben (HB Farmer)
>
> *"Just personal choice. I'm a bit of a tree hugger… it's aesthetically pleasing… the value of the farm will be greater when it comes to be sold."* Bill (HB Farmer)

As discussed in the previous section, farm environmental plans (FEPs) are used as sustainable management tools on many farms. In some, but not all, catchments around the country, FEPs are compulsory, with farms needing a certified FEP in order to be compliant. The Tukituki catchment in Hawke's Bay is one such catchment where all farms are required to have an FEP in place (Hawke's Bay Regional Council, 2015). This regulation is enforced by the Hawke's Bay Regional Council (HBRC). Therefore, while the majority of farmers interviewed indicated all sustainable efforts they undertake are driven by their personal choice, some efforts, including those governed by their FEPs, are by default, or regulatory-driven. These findings somewhat align with literature such as Foerstl et al. (2015), which argued that external influencers such as regulators, consumers and nongovernment organisations (NGOs) have a more significant impact on the implementation of sustainability strategies within a business than internal stakeholders.

> *"We've got an environmental plan. We're in the Tukituki catchment here so we've done an environmental plan so you're restricted on where you can put cattle in the winter."* Bill (HB Farmer)

While local government organisations such as the HBRC are often seen as the enforcers of regulation, they also provide financial incentives in the form of subsidies for particular sustainable initiatives. These incentives also act as motivators for farmers to undertake these sustainable initiatives. Likewise,

interviewees suggested that the Emissions Trading Scheme (ETS) and carbon credits also act as a further financial incentive to carry out on-farm tree planting, another sustainable-based practice. Financial assistance and support is an essential element to encouraging sustainable farming practices and initiatives, with 58% of farmers that financial assistance, incentives or subsidies are the most effective method for encouraging action to make their farms more environmentally sustainable (MPI, 2019). The following quotes are from farmer interviewees who have been motivated by financial incentives and support, and have capitalised on the opportunity provided to them by local government.

> *"Pole planting you do, it's about 50%, in fact… The other thing is we're getting carbon credits for some of these… So that's a financial benefit."* Bill (HB Farmer)
>
> *"They funded a third, and Regional Council funded a third. So that sped up our development tenfold. Every year I was doing 3km of fence for them, and I was piggybacking that and doing another 2km for myself."* Sam (HB Farmer)

4.3.4 Barriers against further Sustainable Agriculture Efforts

While it was essential to this research to understand the drivers for sustainable on-farm practices and behaviours, it is also essential to understand what may be preventing farmers from undertaking even more sustainable on-farm practices. Therefore, the farmers that made up this sample were asked what barriers they or others in the industry may face when attempting to be more sustainable in their farming operation. The most commonly quoted barrier against further sustainable undertakings was a significant time and financial cost to these undertakings, with each operation only having a limited budget for such initiatives, even with assistance from local government.

> *"So there is a financial constraint. There's also a workload constraint. You can't plant them all in one day. There's only so many hours in a day."* Bill (HB Farmer)
>
> *"The economics of it. On this country, fencing is over $22 a meter, so it adds up pretty fast."* Chris (HB Farmer)

Interviewees, that were not the sole owners of their farming operations, including managers, part shareholders and those who were leasing the land they farmed, also suggested that they lacked the outright decision-making power to carry out sustainable based practices they wished to, as exemplified by the quotes below.

> *"Probably a full buy-in. Because I'm only one of four, I've only got one vote of four, and generally, I'm always out-voted on a lot of it"* Fergus (HB Farmer)
>
> *"The constraints on this property I manage is that you can't go hell for leather and spend all their (owners') money on planting trees, so you do have to budget every year."* Bill (HB Farmer)
>
> *"It's hard even to justify it on a lease block because, even though it's a long-term lease, it's still a lot of capital outlay that you might not see the benefit from."* Jack (HB Farmer)

Finally, as discussed in Section 4.2.1, profits and debt reduction are often the top priority for many farming operations and drive farmers to be innovative and productivity-driven. However, when there is less of a financial drive, often found when farms are inherited by family and are relatively debt-free, progress can be halted, and so too can be any drive to achieve sustainability goals. A farmer interviewee suggested that a lack of debt on intergenerational farms could lead to owners becoming less innovative, or less willing to undertake new initiatives, sustainable or otherwise, as there is less emphasis placed on improving productivity.

> *"He's doing exactly the same thing that his dad did, the same thing that their grandad did… I don't know how you get to communicate to those people that there are better ways because there's no financial incentive because they don't probably have debt. So there's no push to improve."* Chris (HB Farmer)

4.3.5 Celebration and Accountability as Tools for Improving Sustainable Agriculture

As interviews were conducted, slight adjustments were made to the interview question sheet. One such adjustment was the inclusion of two additional questions for both farmers and regional councillors. The first question asked farmers whether they believed the celebration of high performing farmers using sustainable practices through media channels such as awards and television programmes was a useful tool for encouraging other New Zealand farmers to undertake similar initiatives.

The resulting responses to this question gave valuable insight into a possible marketing strategy that local government could align themselves with in order to help push the agricultural industry in a sustainable direction. Farmer interviewees voiced their support of celebration-style coverage of successful sustainable farming operations, whether that be through awards systems such as the FMG Young Farmer of the Year and the Balance Farm Environment Awards, as well as through televised series such as Country Calendar. Responses indicated that celebration could be a useful tool in several different ways. Firstly, celebration was referred to as a form of peer-pressure by farmer interviewees, as they discussed how the visual representation and practical demonstration of successful sustainable operations could encourage others to do the same in their farming operations, providing information, insight and encouragement. This theme closely aligns with the Diffusion of Innovation Theory, discussed in the Literature Review chapter, as both individuals (farmers) and businesses (farming operations) can be influenced by their social system (Mahajan & Peterson, 1985).

> *"I think it's good because it highlights what can be done… you can see what they're doing and you can see their enthusiasm, and hopefully, that rubs off"* Bill (HB Farmer)
>
> *"I think peer pressure is a good way to bring people on board, and it's certainly been done a lot in the dairy industry already."* Finely (HB Farmer)

"Anything positive helps… You want to push other farmers and give them goals that they can try and replicate on their own farm maybe in another two to five years say." Jack (HB Farmer)

The second aspect of celebration discussed by farmers was 'telling the farming story". Farmers considered celebration of successful sustainable farming operations a valuable tool for 'telling the farming story' to non-farmers, and helping shift public perception of the New Zealand agricultural industry from a negative to a more positive light. This concept of telling the farming story is present is existing research including Holmes (2019).

"It's about promoting a positive story… It pushes into the public as well, and farmers can say "hey this is what we're actually doing". I think it's a shame the bottom 5% are what everyone sees in the news articles." Jack (HB Farmer)

"…the Balance Farm Environmental Awards are really getting a lot of traction these days, getting a little bit of media attention. It's all about the story you're telling." Bill (HB Farmer)

Alongside the question regarding celebration as a useful tool for improving sustainability in the New Zealand agricultural industry, interviewees were also asked whether they considered holding poor performers in the industry to account through media channels such as television and online platforms to be a valuable tool for driving sustainable agriculture. Farmer interviewee responses were considerably more negative towards this tool than celebration, with the majority of responses indicating that they would prefer to keep accountability "in-industry" to avoid any further external pressure on the agricultural industry. Responses indicated there was a risk to using increased accountability those not meeting environmental standards, in the public eye. This was because the interviewees already believe that the farming industry is misrepresented, with the majority of news coverage of farming being negative portrayals of a small percentage of farmers not meeting the environmental or ethical standards that most farmers adhere to.

"I think it's a dangerous tool because if you use it in the public eye… that then portrays that as the norm, rather than the exception" Sam (HB Farmer)

"…unfortunately, it's focused on far too much, as is a picture taken out of context… Context is very important around what constitutes good and bad." Dave (HB Farmer)

Other responses indicated that market pressure from industry suppliers and purchasers of agricultural products should play more of an active role in holding those to an account that are not meeting the standards that the market is dictating, including environmental, social and ethical considerations.

"I would have thought through the standards that we meet for marketing of goods overseas and supplying to companies, a lot of that's changing." Sam (HB Farmer)

"I'm not saying you sweep it under the carpet, I think they're definitely accountable, but I think that their peers and industry bodies will by default keep them accountable." Sam (HB Farmer)

4.3.6 Views on climate change and perceived impacts on farming

As previously demonstrated in section 4.3.1, there is always room for debate around seemingly settled and agreed upon concepts. Therefore, it is vital to gather a range of views on different concepts relating to the environment and their perceived impact on farming operations and the industry as a whole. Then when the time comes to develop marketing and communication strategies, debated and disputed ideas, concepts and terms can be avoided in favour of more broad and agreeable wording.

One such concept that, while generally agreed upon in a scientific and academic sense, but disputed and questionable in other realms, is the issue of climate change. Interviewees were asked whether they believe climate change will impact their farming operations or the industry as a whole in the future. Responses varied and could be generally categorised into one of three groups. The first group were those responses that indicated there would be no impact from climate change on their farming operations (climate change denial).

> *"You have good years and bad years that's just the variation of farming… I think the actual climate change religion is just out of control and misinformation, scaremongering… To me, it's just wilful ignorance."* Dave (HB Farmer)

The second group of responses regarding climate change gave some limited acknowledgement of the existence of climate change. However, it highlighted the perceived weakness in New Zealand's current approach in combatting climate change.

> *"…yes it's warmed and cooled a number of times over a long time, and there have been a lot of drivers for that… taxing the hell out of people trying to combat it around carbon is just the most bizarre form of stupidity I have ever seen in my adult life."* Jim (Canterbury)
>
> *"…the whole concept that you can plant a tree and keep burning diesel, that's not changing the behaviour. It's only buying time."* Sam (HB Farmer)

This second group of responses also highlighted perceived potential benefits from climate change to their farming operations. One such quoted benefit was more rain for the East Coast of the North Island as a result of more volatile weather patterns.

> *"…it could actually change for the better because I think from what I've heard the East Coast is going to have more variability in the weather so you may get more thunderstorms, you may not get the long periods of droughts we've had because it'll be more changeable so it could actually benefit Hawke's Bay…"* Bill (HB Farmer)
>
> *"…maybe some of this climate that is generally up the Bay of Plenty, Waikato is slowly making its way down to us. We're getting a lot more westerly rain… the problem is we're getting too much rain, you know, 200mm at a time and we're seeing a lot of topsoil loss…"* Fergus (HB Farmer)

The third category of climate change-related responses are those that acknowledged climate change is happening and directly referenced a negative impact of climate change on their farming operation, rather than speculation around weather patterns and whether they will be favourable or not. Only one response fell into this category, provided below.

> *"For us, sea-level rise is happening. It's eating away at our coastline and eating away at my hills, and we're going to have massive slips at some point… that's a major, major issue for me as a result of climate change."* Chris (HB Farmer)

4.4 Farmer Perceptions of Government

Next, an understanding of farmers' perceptions of local and central government is presented. This section details the responses given by the sample of farmers regarding both local and central government, with a focus on the two regional councils of the regions the samples were taken from, Environment Canterbury and the Hawke's Bay Regional Council.

4.4.1 Goals of the Regional Council and the Potential Alignment with Farmers' Goals

The goals of farmers were discussed in Section 4.2.1 of this chapter. However, at this point in the chapter, responses reflect farmers' understanding of the goals of their regional council. The farmer interviewees were then asked whether they believed these goals aligned with their own. This alignment or disconnect was an essential topic to explore as existing literature including both Bridges and Wilhelm (2008) and Sharma et al. (2010) state that in order to achieve sustainability goals, these goals must be agreed upon and supported by all stakeholders including business leaders, consumers, government agencies and NGOs.

Responses indicated differing levels of trust and respect for the regional councils held by farmers. Many farmer interviewees discussed the general role of their regional council to be protecting and managing the resources within their region, and representing the views of the communities. Interviewees regularly referenced a high- or macro-level of alignment of goals between themselves and their regional council, as all parties involved wish to see resources being protected and preserved in order for future generations to use those resources.

> *"I think the goal of the regional council is to look after the resources in the region… at times that imposes on property rights… I'm a firm believer of working with regional councils… We're all after the same thing"* Ben (HB Farmer)
>
> *"Well they've dug a very good line in the sand about staying GMO, GE free. I think we have to maintain that. Because that is our point of difference in the international market."* Fergus (HB Farmer)

A small number of responses indicated an overall level of contempt for the regional council held by some farmer interviewees, indicating the nature of politics, as leaders attempt to stay in power more than addressing any other issues, often restricts their ability to achieve sustainability goals or generate progress in any area.

> *"I don't totally believe they treat the town the same as they treat the rural… Once again, I think that comes down to keeping your seat... I think as a nation, we do want a sustainable, ethically farmed, environmentally friendly production system…"* Sam (HB Farmer)
>
> *"If you've got an activist type mentality at the council level… then that will feedback down… And when you've got an activist type faction in the community that's very loud, and politicians that seem to feel the need to pander to those activists, because they think there's a lot of votes coming there and so they then push local government in a certain way…"* Jim (Canterbury)

Other issues raised by farmer interviewees included a lack of consideration by the council for the social issues of their communities, including farmer mental health which is an issue that has plagued the industry for many years (Falloon, 2020).

> *"I think they've forgotten about the social side of their job. It's all about the environment. But in real life, there is a social side to that as well. And you know, people hurt."* Finley (HB Farmer)

4.4.2 Farmers' Perceptions of Government as a Driver of Sustainable Agriculture

As this research looks to provide insight into useful marketing and communication strategies for local government to use when encouraging sustainable agriculture, it is essential to gauge whether farmers believe both local and central government are, or can potentially be, drivers of sustainable agriculture.

4.4.2.1 Local Government as a Driver of Sustainable Agriculture

Farmer interviewees acknowledged that local government have driven some sustainable agriculture initiatives, particularly within the Hawke's Bay region. In small rural communities, farmers' responses linked both the economic and social importance of agriculture to the vision of their local government while another response indicated that local government has provided support for small-scale sustainable initiatives such as pole planting but has failed to push further large-scale sustainable practices and behaviours.

> *"Local government in an area like this, they've got to be interested and driving agriculture because that's the only way they can drive economic growth within the community, and the regional council, on the surface don't appear to be too driven by that."* Bob (HB Farmer)
>
> *"In the micro things on each farm, I think they're doing a good job… especially the subsidies that they're handing out for plantings"* Bill (HB Farmer)

However, other responses outlined restricting factors that prevent local government from driving sustainable agriculture. These factors included a lack of trust and overall fear of local government (Environment Canterbury in this case) held by farmers as well as the influence central government has over local government.

> *"Most farmers would be really nervous about getting the regional council involved because the culture is not one that you want to get on the wrong side of them. It's just a nightmare."* Jim (Canterbury Farmer)
>
> *"Sometimes I think they're constrained by the politics of it, who's in government. The example of the Ruataniwha Dam. That was a bureaucratic nightmare, and it could have been a huge benefit, but it got bogged down in political cr*p really."* Bill (HB Farmer)

One final comment gave a unique perspective on local government, with the interviewee viewing local government as one partner farmers can work alongside in order to improve sustainability in farming. The only restricting factor in this sense is the lack of communication between the partners, leading to farmers often being unaware of the support local government is offering.

> *"I see it as a partner. Again, I think we need to work together with regional councils. We're all after the same thing, and I think the problem occurs when the communication isn't good enough and compliance is forced upon people"* Ben (HB Farmer)

4.4.2.2 Central Government as a Driver of Sustainable Agriculture

Similar to farmer's views of local government, farmers indicated in general that central government can drive sustainable agriculture in some sense but are limited and constrained by numerous factors. Literature does indicate that the government can be a facilitator of sustainable change through the promotion of technological innovation and rural entrepreneurship, strict biosecurity control as well as incentives to adopt sustainable farming practices (Aerni, 2009). However, there is growing concern that the government's approach to sustainable agriculture is too slow because of the rapidly increasing environmental problems, especially in dairy farming (Williams & Richardson, 2004).

One response from a farmer interviewee indicated that central government does drive sustainable agriculture through national policies that then filter down to a regional and local level.

> *"I guess it is, and they do the overall policy-making, so it filters down from that, so they do have a role, but it would be an overarching role…"* Bill (HB Farmer)

However, another response suggested that the ideologies of the political party in power can either drive or inhibit sustainable agriculture.

"I think this government at the moment absolutely is. I only know that because I know people on the primary sector council, and I know what's about to come out. But under a National-led government absolutely not. They're way too capitalist and profit-driven." Fergus (HB Farmer)

The most commonly referred to issue by farmer interviewees was 'the nature of politics'. In this, farmers are referring to how some politicians strive to maintain their position (for MPs their seat in parliament) above all other goals, sustainable or otherwise. As the majority of votes come from urban centres, and farmers are a relative minority, there is little sense in supporting and driving sustainable agriculture from a political point of view, as it would generate fewer votes than initiatives and policies aimed at urban populations. Current government policies have been viewed by some farmers as detrimental both economically and socially to farming communities, demonstrated in the quotes below.

"…don't forget that the number of votes from a party point of view that come from agriculture is something less than 5%, so they don't even worry about it…" Bob (HB Farmer)

*"…central government from what I can see, are more interested in a**-covering and staying in power. I mean freshwater accord is a prime example… it might have good intentions, but practical implications and ongoing effects of some of the ideas they've got are just mind-boggling."* Sam (HB Farmer)

"I think central government have a big agenda at the moment to make them look like a green country… they're selling good farmland into pine trees to make them look good, for very short term benefit where long term it's going to be disastrous for the country… What they're doing is social damage to some of the communities." Finley (HB Farmer)

4.5 Farmer Perceptions of Interaction, Engagement and Communication with Government

Section 4.5 of this chapter analyses the responses that were given by farmer interviewees regarding their personal experience of interaction with both local and central government, the types of communication used and its effectiveness, and farmers' representation in politics and the impact these factors have on sustainable agriculture. This gives greater insight into what would be the best approach local and central government could use to improve engagement with farmers and improve sustainable agriculture on farms across New Zealand.

4.5.1 Farmers' Involvement and Interest in Local and National Politics

The majority of the farmers sampled for this research indicated they had limited involvement in either local or national politics. Interaction with local government representatives often occurred through social

networks and informal relationships, as well as some engagement via professional networks for those farmers involved with industry body groups.

> *"Couple of the senior policy advisors here I know very well and talk to. A bit with MPI around the carbon side of things that I've had to do in the past. But no not really."* Fergus (HB Farmer)
>
> *"At a CHB level I'm very good friends with the mayor, so I have a close alignment with what's going on in very local politics. I try and keep away from politics, but I like to know what's going on… I have talked to the local MPs, but that's at a pretty general, loose level."* Ben (HB Farmer)

One of the farmer interviewees was heavily involved with local politics, both through their social interactions and personal relationships as well as through their position on a local community board.

> *"I'm the chairman of the local community board. So I associate a lot with the district councils and the mayor. Regional council I know a lot of them. Socially I see a bit of them, so I interact with them as well."* Finley (HB Farmer)

4.5.2 Farmers' Communication with Government Representatives

Leading on from gauging the level of interaction farmers currently have with local and central government, it was also important to gather further details describing the forms of communication they had used to carry out this interaction. This understanding again helps to determine what marketing and communication strategies will be the most effective in future.

Nine of the eleven farmers interviewed for this research quoted face-to-face conversations, meetings, and on-farm visits as their primary form of interaction and communication with local and national government representatives. This personal communication was often supported by phone calls and emails. Due to the personal networks discussed in the previous section, it is not surprising that face-to-face conversations are a regularly referred to communication type.

> *"…I'll ring them up and ask questions… We've hosted a field day here for the regional council regarding carbon credits"* Bill (HB Farmer)
>
> *"With our local ones you can get on the phone and ring them if you wish. One of them lives in our district… I probably know three of them quite well, which is where we've got that level of contact if we wish by email."* Sam (HB Farmer)
>
> *"I had one of their land-use managers out the other day… If you need them, they will come out."* Chris (HB Farmer)
>
> *"Whenever we meet for our freshwater group we always have at least two from the Regional Council there."* Corban (HB Farmer)

One farmer's response highlighted the difficulty in gather information surrounding politics due to biases in the media and misinformation spreading online.

> *"Sometimes you can be swayed into a certain way of thinking depending on what's broadcast on the radio or what you read and sometimes it can be a bit muddied. Sometimes people have agendas, and you have to be careful about getting sucked into different agendas. Also these days with this fake news."* Bill (HB Farmer)

4.5.3 Forms of Communication and Engagement Farmers View as Effective

As a critical concept to this research is communication methods between farmers and government, numerous questions in the interviews related to forms of communication and engagement between the groups. The previous section details the forms of communication farmers had experienced with government, be it local or central. This section explores communication more, as interviewee responses indicate what forms of communication they believe are the most effective and efficient, as well as ways in which current communication and engagement can be improved upon, and what factors are restricting further development in this area.

4.5.3.1 Positive Communication Aspects for Farmers

The first category of the topic of communication and engagement are the areas that farmers are pleased with, reflected in the positive views and responses. This includes the forms of communication they believe work best regarding sustainable initiatives, policies and regulations. By far, the most commonly referenced communication form is face-to-face communication. Farmers in this study value casual conversational-based communication above all other methods. It is in this way that they would like to receive any information impacting their farming operation. Less commonly mentioned forms of communication include formal meetings, online publications and hard copy mailouts. Interviewees acknowledge the strengths of numerous different approaches, with some stating that a combination of those communication forms listed above is the best approach.

Interviewees often distinguished between broad level communication such as emails, mailouts and online publications, and personal communication such as on-farm visits and conversations. Broad level approaches are discussed as adequate ways of spreading information quickly and efficiently throughout the rural community. However, this must be supported by a detailed, in-depth conversation in order to help farmers fully understand the information being provided.

> *"I think online is very bulk. It's a great way to spread it, but there's so many different opinions. Let's say there's a young person, and they can't get to meetings, so there is a convenience side to online."* Jack (HB Farmer)

"I think still meetings get a lot of turn-out in rural communities. It's surprising sometimes how many people turn up to them. If there's a topic that they're interested in, they'll fill the halls. If there isn't, they won't." Finley (HB Farmer)

"You can't beat one-on-one, guys coming and talking to you but it's a huge undertaking to go and see every single farmer… But yeah one-on-one is best, and I guess these environmental plans are good because then it sets in case what each individual farmer has to do." Bill (HB Farmer)

"You can do it two ways at two different levels. At a high level, go across the internet. But at an intricate level, it's got to be face-to-face with all the details." Ben (HB Farmer)

Generational differences and technological capabilities are also a factor that limits the usefulness of online platforms for communicating with farmers.

*"You've got a whole sector that won't deal with those *points to laptop and cell phone*… at the end of the day, having a conversation face to face, you get instant feedback, there's no ambiguity about what is being said. You can't hide behind anything."* Sam (HB Farmer)

"…if you look at the 60- and 70-year old's and even older, internet and social media, they don't look at it and they'll never look at it... If you're targeting that age group, I'd say it's probably written printed stuff and face-to-face. And if you're targeting the 25 to 50-year-old group… It's internet, it's phone and still face-to-face as well" Ben (HB Farmer)

In the case of Hawke's Bay farmers, responses indicated a reasonable level of satisfaction with HBRC employees that they deal with regularly. Commonly referred to as 'the guys on the ground', interviewees saw the ground level engagement and communication as satisfactory. However, interviewees suggested that an internal disconnect within HBRC prevents their concerns and feedback from being passed on to higher levels of management of HBRC.

"The people on the ground have been bloody good, but sometimes they've got idiots for bosses… those guys at the top would be better off focusing on giving the people on the ground the resources they need and educating them so that they are competent" Sam (HB Farmer)

"Council has got some bloody good people on the ground at that farmer level that are readily available and accessible if you choose." Sam (HB Farmer)

"The quality of the interaction with the guys on the ground is fine… by the time it gets to the top, it's been murkied. The interaction with people making decisions is not as close as it should be… those people that are sitting at those higher levels need to have a network of people on the ground that they are constantly talking to." Ben (HB Farmer)

4.5.3.2 Negative Communication Aspects for Farmers

The second sub-theme relating to communication and engagement between farmers and government focussed on the negative aspects of current communication and engagement techniques, from the perspective of farmers. These responses detailed communication and engagement that they believe does not work well for interacting with farmers and are seen as inefficient in attempting to improve sustainability in New Zealand agriculture.

A significant issue referenced by three different farmer interviewees was the lack of agricultural knowledge and expertise held by government officials and employees. By not understanding the fundamentals of farming and basic farming practices, trust, engagement and communication between the two groups is severely impacted. Interviewees expressed frustration in their experiences with regulatory officials from both their regional council and MPI, which could have been avoided if those bodies employed individuals with agricultural knowledge or provided adequate training. Both time and financial resources are wasted when government attempts to drive engagement and regulation using individuals that lack the expertise to do so.

> *"I heard of recently an MPI visit onto a farm in this area, and one of the girls from MPI was asking "what are those concrete things in the paddocks?" They didn't realise what a water trough was"* Bob (HB Farmer)
>
> *"I had a case here with MPI getting audited by a chappy, and he didn't really have a clue about farming at all… if you don't have some understanding, you're going to spend more time talking to these people explaining things than you are actually answering their questions because you have to go right back to basics."* Bill (HB Farmer)
>
> *"And questions like: "well why don't we just stop the deer from wallowing?" Well if you go onto a farm and are trying to build rapport with a cocky and you're making dumb comments like that, well you shot yourself in the foot."* Sam (HB Farmer)

Responses also indicated that forced compliance and regulation is not received well by farmers, and when the communication coming from government is built around these topics, it is relatively ineffective. One interviewee referred to forced compliance and regulators managing every aspect of a farm's operation as grandparenting, which would severely limit his production and negatively impact his business.

> *"Most farmers don't like being told off. That's what compliance is… there's a lot of farmers up there doing a really good job… But there are some, 5 to 10%, that aren't. And they cause the compliance for everyone. How do you communicate and convince that group without destroying the confidence of the other 90%?"* Ben (HB Farmer)
>
> *"They don't respond to some espoused perceptions which come from ministers… they need to be able to follow the logic"* Bob (HB Farmer)

"If they if they were to bring in something, I use the term grandparenting, that would hamstring us." Sam (HB Farmer)

An overall lack of communication and consultation from government, be it local or central, is also an issue referenced by some interviewees. This issue then leads to a disconnect between the groups which stifles engagement and prevents further sustainable action from being taken.

*"It's always farmers always having to react… get us involved and you'll find that people just get on board with stuff… Government says they've been talking to farmers, but I'm f***ed if I know who they're talking to."* Dave (HB Farmer)

4.5.4 Farmer Representation

Farmer representation was an issue raised by many interviewees, as responses suggested that representation is an essential factor when policies and regulations are being developed and implemented. With proper representation, farmers feel heard, and the fear of adverse conditions being placed on their businesses is reduced. However, this research had found that the farmers in this sample feel underrepresented politically in both local and national politics. This is a significant concern, as it poses challenges for driving further engagement, trust and communication between the groups with sustainable outcomes in mind.

Responses were either entirely negative (six of the eleven interviewees), or a mixed response acknowledging adequate representation at some levels but an unacceptable level of representation in other levels of politics (three of the eleven interviewees).

Farmer interviewees made references to the fact that only a relatively small proportion of the New Zealand population are farmers, while the majority of New Zealand citizens are classed as urban. The number of New Zealand farmers would not cause any issue with representation as "everyone gets one vote", however, issues arise when the contribution agriculture makes to the economies of particular regions such as Hawke's Bay and Canterbury, and the New Zealand economy as a whole is considered.

"yeah that's a hard thing because we are providing quite a bit to the economy, but there's not that many farmers really when you compare it to the 5 or 6 million we've got in this country… I'm no politician so I don't know how they're going to balance it" Corban (HB Farmer)

"No… Because CHB has one representative on a board of eight. Therefore, one vote at the table doesn't work… The voters live in the cities." Ben (HB Farmer)

Interviewees often referenced the difficulty these issues pose, as any changes to the current political system would begin to impact fundamental democratic rights.

"I forget how many farmers there are in New Zealand compared to New Zealanders overall, but as a percentage, we're decreasing. As more and more people go to Auckland they'll get more and more votes, so no but I'm not sure how you change that, without any tinkering with fundamental Democratic rights." Jim (Canterbury)

Inequalities such as the amount of rates paid by farmers compared to the public facilities they are provided with such as gravel roads are raised by some interviewees. Again, a lack of agricultural knowledge, and in turn, appreciation, is also a factor referenced by interviewees that limits farmer representation.

"Regional council no, from the amount of rates and everything we pay, I think we get very little say… everyone gets to vote, but only certain people pay rates… And with the regional council, farmers pay huge amounts into it. They should actually be able to get a decent say in it... The bureaucrats in central government don't understand agriculture at all. They've just got a view and that's it. I doubt they've ever been out on a farm." Chris (HB Farmer)

Additionally, there was a general sense of fear held by some farmers towards government, as the quote below reflects, farmers can be hesitant to push for further representation.

"There's probably a situation where people don't want to speak up because they might get investigated or something. If I say something they might think "we'll hammer them now."… We've got two councillors from our rural ward. But that's only two councillors out of twelve and there's even pushback to get rid of them too." Finley (HB Farmer)

The case of the Ruataniwha Dam, a scrapped water storage and irrigation project in Central Hawke's Bay (Wiltshire, 2019), was referenced by numerous interviewees throughout the interview process as a failure of politics and a clear example of a lack of farmer representation in both local and national politics.

"… if you look at the hoo-ha about the dam down here, it was a perfect example of divide and conquer. Split the urban-rural base… we divided the community and it was a brilliant example of politics at its worst." Sam (HB Farmer)

4.6 Government's Role and Involvement with Sustainable Agriculture

The previous sections detail issues and themes that arose throughout the interview process with ten farmers from the Hawke's Bay region, and one farmer from the Canterbury region. The following sections detail the findings from local government representatives, three of whom are from the Hawke's Bay Regional Council (HBRC) and two of whom are from the Environment Canterbury (ECan). These themes are shown in Figure 2 below.

The key themes of this series of interviews somewhat mirror those of the farmer interviews, as the questions posed are relatively similar (see Appendix 4: Final Interview Run Sheet), but driven from a government

perspective, rather than from a farm owner or manager perspective. In Chapter Five, the themes from each group are compared, highlighting areas of both alignment and disconnect, which will in turn, contribute to recommendations for improving communication and engagement through targeted marketing-based strategies.

This section explores the goals of local and central government and the perceived alignment with goals of farmers, local government perceptions and understanding of sustainability and agricultural sustainability concepts, the current environmental regulations and policies in place within Canterbury and Hawke's Bay, whether or not local and central government are driving sustainable agriculture, and the use of celebration and accountability as tools for driving sustainable agriculture.

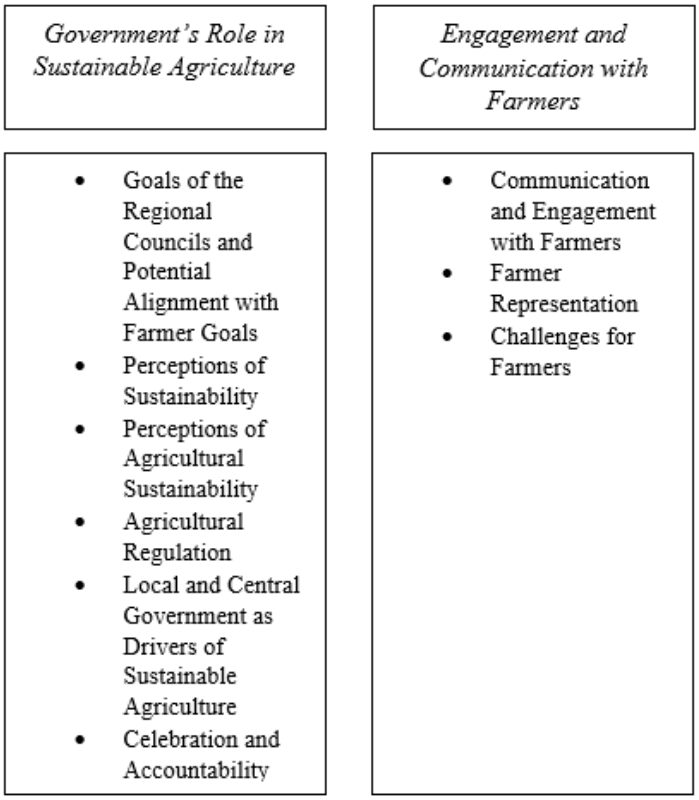

Figure 2: Key Themes and Contributing Factors (Local Government Representative Perspectives)

4.6.1 Goals of the Regional Council and the Potential Alignment with Farmers' Goals

Just as it was necessary to gather an understanding of farmers' goals, it was also essential to understand the goals of local government such as regional councils. The interviewees indicated that the goals of their councils are prescribed by the Resource Management Act 1991. It is then the role of local government to enact those goals. At a broad level, the responses suggested that the primary objective of the councils are to sustainably manage resources within the region on behalf of the communities living within those regions,

demonstrated in the following quotes. Often, these responses reflected literature surrounding the concept of the Triple Bottom Line (TBL) such as Bridges and Wilhelm (2008), with interviewees referencing the environmental, social and economic elements relating to sustainability.

> *"The bulk of our activities are dictated by the Resource Management Act… there are four pillars in terms of resource use for sustainability, economic development, community, social and cultural wellbeing's… our mandate is to manage resource use to achieve those goals."* Marcus (ECan)
>
> *"…it's essentially how you deliver under the Resource Management Act… there aren't specific goals or mission statements about agriculture, but there are of things environmental and about the land…"* Lewis (HBRC)

In terms of whether the goals detailed above align with those of the farmers within the Canterbury and Hawke's Bay regions, council interviewees suggested that alignment occurred at a high/macro/long-term/broad level. Issues of disconnect were perceived to arise around the implementation of policies, regulations and practices to achieve those goals, based on disagreements on topics such as timeframes, accountability and associated costs.

> *"Longer term we're all working towards the same goals. I think how we seek those out in terms of short-medium term we're not aligned…Most people share the same values…The real point of difference comes in the trajectories, the expectations on how quickly and where it's to happen."* Matt (HBRC)
>
> *"I think at a high, and at a broad level, most goals are aligned. There's some challenges around timing, and there's some major challenges around accountability…"* Marcus (ECan)

In terms of alignment of goals on a national scale, responses were similar to those regarding regional level goals. There is a broad level of alignment with most individuals sharing similar concerns and awareness for the environment. The quote below also suggests that this alignment has been driven partially from the Māori world view and the concept of kaitiakitanga (guardianship and protection with humans being a part of the environment) (Royal, 2007).

> *"That environmental awareness, kaitiakitanga… some of it has come from the Māori view of the world… where actually we've got to look at this wider holistic view of the environment rather than purely an economic view… I think there is certainly, with the present government alignment in terms of; we actually want to protect the environment for future generations."* Oscar (ECan)

4.6.2 Perceptions of Sustainability

This section details the perceptions of sustainability held by those representing ECan and the HBRC.
Key themes throughout these responses included resource management to ensure prolonged use of those resources is possible in the future, ensuring resource use is economically viable, productivity maintenance

and resilience. The quote from Lewis incorporates the idea of economic viability, demonstrating the idea that sustainability is not a simple single concept, but is tied to numerous areas that all require attention from regulators, business and other stakeholders. Similarly, Mac discussed the idea of continuously using resources at a constant or improved level. This improvement could refer to the efficiency of resource use, such as reducing water use while maintaining the same level of output.

> *"To manage the resources that we have in a way which ensures longevity for the continued use of those resources to deliver their wants and needs that we have as well as being economically viable."* Lewis (HBRC)
>
> *"For me, it's closely linked to resilience. One and the same to a certain degree, so it's being able to use the resources that you have available in a way that allows you to continue to use them at the same level or better."* Mac (HBRC)

Council interviewees Matt and Lewis also highlighted concern over how the use of terms such as sustainability is often politically motivated, with individuals capitalizing on the perceived ambiguity and diversity in the definition of sustainability in order to meet their own needs and align with a particular agenda.

> *"It's one of those words that in a political context, helps start conversations and programs… We tend to use it for progressing our own needs and frame it very narrowly in the way that suits what we're trying to progress at the time."* Matt (HBRC)
>
> *"Many use the lack of definition as a cop-out because it's easy to exploit what we don't know it is, as an excuse not to get on with the job, many do that, and there's a lot of politics sitting in behind that as well."* Lewis (HBRC)

4.6.3 Perceptions of Agricultural Sustainability

Agricultural sustainability is a key concept of this research. Therefore, council representatives were also asked to discuss their perceptions and understandings of agricultural sustainability. Responses indicated a relatively good level of understanding of the concept of sustainable agriculture set out in the literature review chapter, with additional comments linking sustainable agriculture to the social, cultural and economic wellbeing of communities, particularly small rural communities such as Northern Hawke's Bay.

> *"Agricultural sustainability to me up here, and in particular we're talking about hill country, has a significant impact on this community's social, cultural and economic wellbeing"* Matt (HBRC)
>
> *"True agricultural sustainability would be profitable, it would be environmentally progressive, with an eye to reducing the environmental footprint of farming. But critically important it would have a view to the social wellbeing of the community and the farms that are located there..."* Matt (HBRC)

Within the Canterbury context, sustainable agriculture was viewed as one aspect of environmental protection, laid out in the Canterbury Water Management Strategy (CWMS). This strategy also laid out details surrounding the degradation of land, and how it is the role of land managers and regulators to not only protect the land but improve and restore it. This view mirrors that of MacLeod and Moller (2006) which defined sustainable agriculture as "The use of farming practices which maintain or improve the natural resource base of agriculture, and any parts of the environment influenced by agriculture" (p. 202).

> *"The Canterbury Water Management Strategy is very clear that we've actually degraded the environment. We need to stop that degradation and then we need to improve the environment… like putting dairy cows on leaky, light soils, maybe that actually just isn't sustainable farming practice."* Oscar (ECan)

4.6.4 Regulations and Policies Relating to Farming and the Environment

Section 4.3.3 of this chapter covered the factors driving farmers' motivation to be more sustainable in their farming operations. While the consensus was that decisions were driven through their values and good management practice, there are numerous regulatory based factors in place in both the Canterbury and Hawke's Bay regions. During the interview with Marcus from Environment Canterbury, the interviewee laid out the primary regulatory and non-regulatory models used to drive sustainable agriculture and land use in general in Canterbury using a diagram. This diagram was reproduced and attached below in Figure 3.

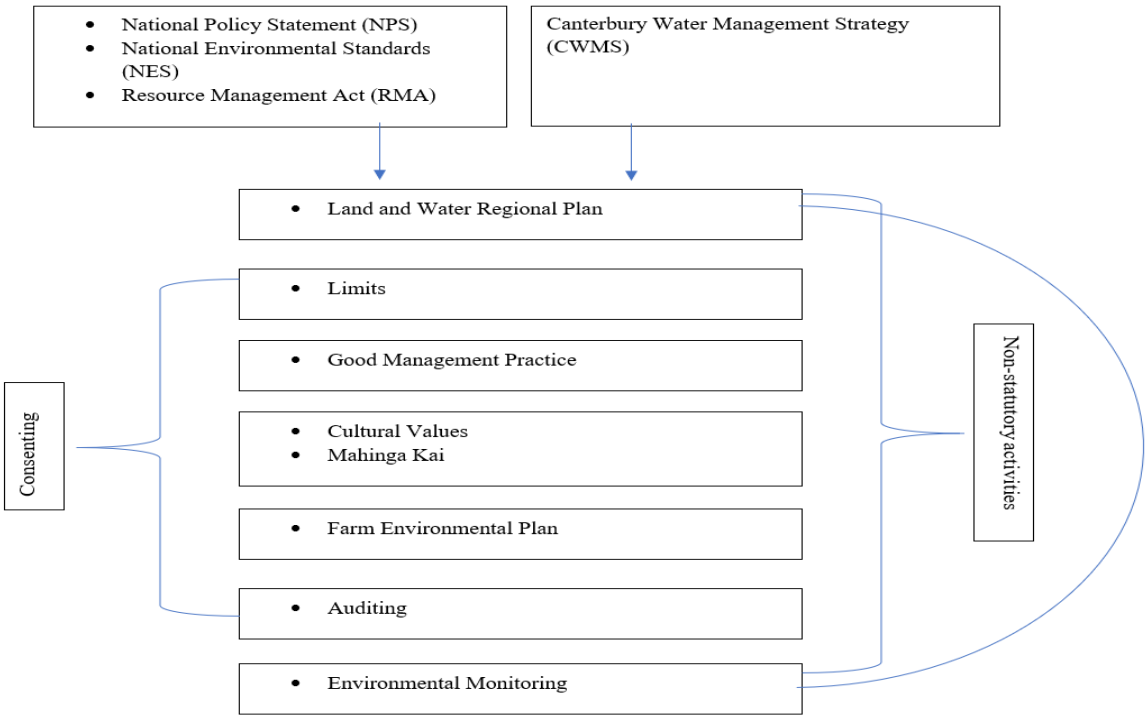

Figure 3: Systems for Encouraging Sustainable Land Use in Canterbury

Expanding on the diagram from the interview with Marcus is the response from Oscar, also from Environment Canterbury. In his response, tools including nitrogen limits, compulsory farm environmental planning, auditing and monitoring were all listed as regulatory tools used to help improve sustainable land use within the region, particularly in farming operations.

> *"what we've done is we've got nitrate limits for farmers.... 3000 of them need to have a farm environment plan because they either have more than 30ha of irrigation, which is deemed to be an environmental risky operation… or if you do winter grazing of stock which is also really bad in terms of nitrate leaching... everything that's an environmental risk on a farm should be covered under a farm environmental plan… Then what happens is they get audited"* Oscar (ECan)

Responses from HBRC representatives suggested that water management was a key element to the majority of the environmental regulation within Hawke's Bay. Again, the Resource Management Act 1991 was referenced as the overarching piece of legislation that drives all further environmental regulation. Nutrient use and management, soil protection and farm plans were all referenced as regulatory tools for improving the environment and aiming for sustainable agriculture, similar to those tools used in Canterbury.

> *"There's the regional resource management plan. You've got Plan Change Six in the Tuki… it's around low flows of water… fencing requirements where you are going to have farm plans... The resource management plan is primarily around the RMA."* Mac (HBRC)
>
> *"Compulsion to have a farm plan, stock exclusion rules. So excluding stock from certain parts of the land due to the slope… there's rules around the intensity of stocking. There's also a couple of nitrogen rules based on the leaching of nitrogen off-farm… another rule around the concentration of dissolved inorganic nitrogen within catchments"* Matt (HBRC)

4.6.5 Local and Central Government as Drivers of Sustainable Agriculture

Farmers sampled for this research gave relatively mixed responses regarding whether they believed local or central government were drivers of sustainable agriculture. A similar series of questions were also posed to representatives from local government bodies to determine whether these organisations perceived themselves as driving sustainable agriculture or not.

The two interviewees from Environment Canterbury suggested that the primary goal of their organisation was not to drive sustainable agriculture through innovation and development, but preferably through the careful management of resources, whether that be in a regulatory sense or otherwise. There is some support offered by ECan to farmers to help facilitate sustainable agriculture. However, the interviewees were very clear that is not the responsibility of local government to ensure businesses of any nature, including farming operations, are successful. That responsibility is held by the landowners and managers.

"…we are also interested in economic development, but it's often through the efficient use of resources so for example, infrastructure. So individually, farmers aren't often able to put the infrastructure together, but if we can facilitate say, an irrigation scheme or water storage for enhanced irrigation" Marcus (ECan)

"We're the regulator. It's not our job to help particularly… trying to build capacity and encourage capacity in the industry but a lot of it is sitting with the industry." Oscar (ECan)

Similarly, in Hawke's Bay, the regional council representatives do not see it as a role of council to be dictating to farmers how exactly they should be operating. This form of engagement, referred to as grandparenting by farmer interviewee Sam in Section 4.5.3.2, can lead to resistance from farmers and drive further disconnect between the two groups. Instead, the regional council offers support for sustainable-based initiatives such as fencing and planting, while also maintaining minimum environmental standards, using regulatory tools only when necessary (i.e. when a farmer is not meeting those minimum standards).

"The challenge is everything that council does is long-term… the farm has to make a dollar today, which is short term, to be viable medium-long term… So yes lead by example signals, but the end of the day I personally don't think a council should say "you can only do beef there, you can only crop there, you can only do hort there, you can't do dairy there." Lewis (HBRC)

"I think it's a driver to the bottom line. You're trying to get everybody over a minimum standard. I don't think we're such an enabler at pushing innovation and fostering the longer-term sustainability of our farming enterprises." Matt (HBRC)

Matt from the HBRC also highlighted an area that the council is not currently active in, but could align themselves with in order to drive sustainable agriculture. Fostering innovation and development by leveraging successful farmer-implemented sustainable practices could be a beneficial tool in their attempts to drive sustainability.

"There's a whole lot of people out there that are doing really great things that if we leverage off, I think will make much bigger gains out of then trying to push everybody to this minimum standard. I think that's creating this expectation of just getting barely enough done to meet that minimum standard without thinking through." Matt (HBRC)

In terms of whether central government is a driver of sustainable agriculture, the council interviewees' responses shared many elements with those of farmers. Primarily, responses suggested that central government is a driver through the development and implementation of national policies regarding the environment and sustainable resource use. However, central government are limited to a macro-level of involvement, with local government bodies implementing policies and attempting to achieve the goals set put by central government.

"…it's probably more that they're setting the national policies and the laws and then it's up to us to push them and make them real." Oscar (ECan)

"They're a little bit more generic in their approaches, so they tend to throw things out on a national basis and dump it on our laps to try and regionalise it, and even in a small scale, try and localise these things and that's where the true challenges lie." Matt (HBRC)

4.6.6 Celebration and Accountability as Tools for Improving Sustainable Agriculture

A marketing tool discussed by farmers for improving the uptake of sustainable agriculture was the celebration of those farming operations that have been innovative and implemented sustainable farming practices. Therefore, it was also important to gather the opinions of local government representatives, to understand whether they see celebration through the likes of environmental awards as a valuable tool, and one which they could align themselves.

Responses indicated that celebration, done the right way, can help reduce the disconnect between farmers and government, as well as between farmers and the urban population, through telling the farming story. Sharing of knowledge and expertise was also referenced as a strength of celebrating high-level performers in the realm of sustainable agriculture.

"It is seen to be beneficial to be in there proactively encouraging this sort of behaviour and rewarding people that have done well, that's where council can get involved." Mac (HBRC)

"Yeah we are a large sponsor of the Balance Farm Environmental Awards, we're a big sponsor of the Farm Forestry Awards, we sponsor the Farmer of the Year… there's a great opportunity to work hand in hand with these guys and leverage off them to bring others along for the ride" Matt (HBRC)

Issues surrounding a lack of accountability for poor performers in the agricultural industry was also discussed by council interviewees. Responses indicated that the regional councils would prefer to distance themselves from the task of holding poor performers to account, suggesting that industry groups and market signals should play more of an active role in holding poor performing farmers to account, particularly regarding environmental standards. These comments aligned particularly with Sharma et al. (2010) as this work highlighted the issue of not having clear leaders when it came to sustainability initiatives. Additionally, Sharma et al. (2010) posed the question of sustainable responsibility, whether it was the responsibility of consumers to lead sustainable initiatives or whether it is the responsibility of business leaders, owners and managers. The key themes throughout this section suggest that responsibility is shared; however, the power to drive sustainable change is not shared.

"That's one of the real pinch points is that ability to call out. It'd be better if there were industry drivers that the industry used to call out poor performers and help lift the standard." Marcus (ECan)

"…a good farm and a bad farm in the eyes of the regulator is irrelevant… I'll go back to those that are purchasing off those farms, and if only they would use their incentives so much more and say "we're not going to give you 80% of the price of the market price until you lift your game because we know you have polluted…" Lewis (HBRC)

One comment also suggested that accountability of farmers not meeting environmental standards can be improved when those farming are presented with evidence of the negative impacts their operations are having on the environment.

"They were saying "it's not us, prove it" and we just kept tapping away and somewhere along the way they started saying "oh yeah it was us." Most of them, not all of them, and started thinking "well, what do we do now?" So there's a lot more buy-in now than there was about five years ago." Oscar (ECan)

4.7 Local Government Interaction, Engagement and Communication with Farmers

This section of the chapter summarises the key themes and points of interest that arose on the topic of farmer-government interaction, engagement and communication. Throughout the interview process, there were questions directly aimed at gaining insight into what current forms of communication are used by local government to engage with farmers, as well as questions regarding the political representation of farmers, and the perceived challenges for farmers from the perspective of regional councils.

4.7.1 Government Communication with Farmers (Positive Aspects)

A central concept to this research is communication methods between government and farmers, and therefore numerous questions in the interviews related to forms of communication and engagement between the groups. This section explores communication and engagement from the perspective of local government representatives, instead of farm owners and managers. Interviewee responses indicated what forms of communication council representatives had experience in, and what forms of engagement and communication they believe are the most effective and efficient. Building upon this, interviewees also provided information on ways in which current communication and engagement techniques used by local government can be improved upon, and what factors are restricting further development in this area.

4.7.1.1 Examples from Environment Canterbury

Between the two interviewees from Environment Canterbury, there was a significant reference to the use of zone committees as the primary form of driving ongoing community engagement. While not directly used to communicate environmental issues or to engage with farmers, in particular, zone committees throughout Canterbury provide community members, rural or otherwise, to have a relatively direct line of communication to local government. These committees influence the planning process undertaken by Environment Canterbury and help inform communities of what direction local government is heading on multiple areas of concern, including sustainable initiatives and environmental projects. Zone committees also provide farmers with the opportunity to involve themselves with local government and improve the level at which they are represented politically. Further discussion of this representation is included in section 4.7.2.

> *"we've set up ten zones… we see the zone committees as a communication channel in their own right because the people on them are community leaders and they are talking to others in their communities."* Oscar (ECan)

Other ongoing communication and engagement besides the use of zone committees include print material and online mailouts. ECan interviewee Oscar suggested that the size of the community being communicated with will often dictate the style of communication employed, demonstrating the differing levels of communication efficiency between communication channels.

> *"It's probably a bit ad hoc. It just depends if we've got something that we'd like to do, and it depends on the zone… Like Kaikoura… you only need to print 2000, and you cover the whole of Kaikoura with a letterbox drop. But somewhere like Ashburton where we've got probably like 25,000 or 30,000 people, we tend to use more electronic."* Oscar (ECan)

While zone committees, newsletters and emails to different areas of Canterbury provide ongoing engagement and communication, specialised and targeted communication strategies are also employed by Environment Canterbury when it is required, such as when there are new regulations, information and practices of which Canterbury farmers need to be made aware.

The second Environment Canterbury interviewee, Oscar, provided an in-depth explanation of the marketing approach taken by the council when new regulations and information needs to be provided to farmers. His response indicated that their marketing and communication strategies were driven from behavioural change marketing research, providing essential information, followed by support systems, simple directions and finally, regulation and compliance. Behavioural change is referred to and linked to sustainability marketing concepts in previous literature as well, specifically, Reformative Sustainability Marketing (Kemper & Ballantine, 2019) as discussed in the Literature Review chapter. Simplicity was a key theme to Oscar's discussion, as well as the avoidance of ECan branding, as the council was aware that

farmers tended to avoid material pushed towards them from the council. This avoidance could be considered marketing avoidance, as the consumers (farmers) actively deflect the marketing content from the provider (ECan) (Hann et al., 2008). Simplicity was essential to the direct communication with farmers, as it was understood that the target audience often experienced an overload of information and clutter, which in turn leads to disengagement with the council. Hardcopy mailers, handouts, emailed marketing content and communication can all fall under the category of marketing clutter, which consumers will then attempt to avoid (Kokemuller, n.d.).

> *"We produced these documents… It came out of behaviour change thinking… we had heard for instance that farmers didn't like getting letters from ECan and they tended to throw them away. So we put it in an envelope which has a little ECan logo down there, but it's not obvious… Very simple and direct, one page."* Oscar (ECan)
>
> *"We also created a whole new website called Canterburywater.farm… We even had billboards on the backs of buses and trucks driving around Canterbury… that has kind of become the template for every plan change now…"* Oscar (ECan)

4.7.1.2 Examples from the Hawke's Bay Regional Council

Key ideas that became apparent throughout the interviews with representatives from the HBRC included trust and relationship building. Interviewees saw this as an essential aspect of enacting good communication and engagement with the farmers within their region. Informal meetings and quality conversation-based engagement were listed as key forms of communication, as well as a requirement for council employees to have a certain level of agricultural expertise to engage with farmers effectively.

> *"…this is all contingent on trust, respect, people knowing that you'll front s*** when it happens… You've got to spend time with people, explain it in their context, try and understand it from their point of view, which I think is a big gap between the way we communicate at the moment."* Matt (HBRC)
>
> *"Having a conversation and asking the right questions, it's very revealing often more than any press releases either way"* Lewis (HBRC)
>
> *"Most of the staff in our wider group come from a farming background, and that's definitely put them in good stead when they are on-farm, and people start talking about, particularly management practices… It's practically a core requisite for people in my game."* Matt (HBRC)

While personal communication, informal meetings and conversations are all noted as crucial forms of driving farmer/government engagement, the practicality of these styles was also noted by interviewees. Time and financial restrictions can prevent local government form always communicating in the highest quality way, as it is impractical to visit every Hawke's Bay farmer to discuss individually new information surrounding a plan change, for example.

"It's both much easier rurally and much harder. One, it's expansive, and you try to deal intensive and you just can't… the people per square kilometre is a lot less dense than in town." Lewis (HBRC)

A relatively traditional mix was referenced by interviewees when asked how they deliver information to farmers regarding regulation, practices and availability of funding for sustainable initiatives. This mix included meetings, both formal and informal, hardcopy newsletters and information pack mailouts, emails, billboard usage, listings in local newspapers and announcements on local radio as well as extensive information provided on the HBRC website.

"The web. We've got billboards, we've got letters to individual catchment landowners. Newsletter, newspapers in the local rags. There's factsheets, pamphlets it's the full range actually… it's either going to be a mail-out or information in the local store or hall or school, you could be calling local community meetings, but you got to focus it locally." Mac (HBRC)

Consistency in the communication, the information provided, and the style of language used in political communication was also listed as factors that strengthen engagement between government and farmers. Inconsistency in information and messages was listed as a limiting factor by both farmers and local government representatives. When a well-strategized political campaign is used, the information and issues being discussed should be relatively consistent for the campaign to be successful, something which would be appreciated by regulators, planners, and managers equally.

"…I do think consistent communication is a key element of it. One of the advantages of the freshwater reforms is that there will be a consistent approach to the rules and regulations nationally, and from that, from a central, local and primary sector point of view, we're all talking about the same thing at the same time to the same people…" Matt (HBRC)

These efforts are supported by existing literature, including a report by MPI (2019), which indicated that 46% of farmers believe that clear government policy guidelines will help them undertake sustainable action on-farm. Similarly, the responses given indicated that the HBRC was attempting to improve council employees' views and opinions of farming. Reducing negative connotations of farming held within local government through farm visits and tours on successful, sustainability-driven farms was highlighted as a key way of driving further quality engagement between the two groups and reducing any disconnect.

"We actually walked around a really good farm the other day… you go somewhere like that, looking after the land, planting up the gulley, treasuring and managing the waterways there, and a successful farm. How cool is that? And it was really important for councillors particularly to see that farm and walk around and see what they're doing, balancing production and environment successfully." Lewis (HBRC)

Regarding quality communication and engagement between farmers and local government, HBRC interviewees also discussed numerous limiting factors that are inhibiting quality engagement between the two groups. The most commonly referred to factors included the general unwillingness of farmers to come forward, initiate engagement and ask for help, the forced compliance approach often taken by government that farmers respond negatively to and budgetary restrictions.

> *"Farmers are reluctant to come forward in these conversations, so they don't get involved, and they don't want to get involved. You really need to take that conversation to them on their terms. But that just doesn't fit the time frames that we had to put these plans together."* Matt (HBRC)
>
> *"…a non-reg tool is now being made a regulatory tool, but the same people have to use it… it's going to get to the point where the farmer will disengage because now it's so complex. I think it's a shame because if you want to engage with someone, that's not how you do it."* Mac (HBRC)

Budgetary restrictions were also discussed by interviewees. The HBRC would have employed an external marketing provider for Plan Change Six, similar to what ECan had done in the past. However, the HBRC could not afford the expense.

> *"We just recently went through a whole communication strategy process, and it was quite an eye-opener… I think it was a valuable piece of work… but we can't afford the $150k the comms people wanted us to pay up to do the work."* Matt (HBRC)

Further discussion from one HBRC interviewee revealed a perceived disconnect in the communication styles between council and farmers. The interviewee acknowledged that often the messages and information coming from local government is comprised of models, data and policy buzzwords, however, in stark contrast, farmers' communication is based in practical demonstration, logical explanation of process and a general focus on production and value-based benefits.

> *"Our policy people tend to talk in models and big words and our farmers very experiential. The difference between those two levels of communication is quite wide… We don't spend enough time with people to fully understand their perspective and fully grasp why they're struggling… That leads to them tuning out when we communicate with them."* Matt (HBRC)

4.7.2 Issues relating to Farmer Representation in Local and National Politics

In order to improve communication and engagement between New Zealand farmers and government, an understanding of the political representation of farmers was required. This section summarises the findings surrounding farmer representation, but in this instance, it is the opinions of the regional council interviewees being summarised.

Responses varied, with some suggesting that some agricultural advocacy groups and industry bodies do a relatively good job of representing farmers, while others do not. The following two quotes demonstrate the differences in opinions when it comes to farmer representation. The perceived differences may have occurred due to a difference in experiences dealing with agricultural groups between the two interviewees.

> *"They're represented in terms of the number of votes they've got, which is what democracy is. Do they have a strong voice? I think yes they do. I think their voice through either industry organisations such as Dairy NZ or Beef and Lamb, or with Federated Farmers"* Marcus (ECan)
>
> *"No… The sheep and beef industry is probably the one that lags and lacks it the most. Beef & Lamb is probably your main advocacy group, but they are so concerned about protecting their levy that they don't push the envelope too far… the days of where the feds represented all of the farming community are long gone. In the past, the way that they have interacted with central government had burnt a few bridges for them, and now they've pulled back a bit…"* Matt (HBRC)

The zone committees throughout Canterbury were discussed as platforms providing farmers with the opportunity for representation, due to the rural nature many communities throughout Canterbury.

> *"They mostly have some farmers and things on them because they represent them, that's the community, and there has been some criticism about the zone committees saying they're full of farmers, well that's because most of Canterbury is in farmland... They've also been quite a way for people to go from local representation into council."* Oscar (ECan)

Some restrictive factors were outlined by interviewees, as any deviation away from a 'one vote each' system would be imposing on fundamental democratic rights. However, farmers make up a relatively small proportion of the voting population in New Zealand but make significant economic contributions to both their regions and New Zealand as a whole.

> *"…if you pro-rata it by export receipts, 70% of parliament will be farmers. If you pro-rata by population, probably I don't know what it is, but a very low per cent…"* Lewis (HBRC)

4.7.3 Challenges for Farmers

Just as farmer interviewees were asked what they believed the most significant challenges would be for their farming operations and the New Zealand agricultural industry in the short- and long-term, regional council representatives were also asked what the most significant challenges will be. Comparison of these findings will reveal whether the concerns of farmers and government are aligned and if there is any shared understanding.

A commonly referred to challenge for New Zealand farming was the increasing levels of compliance for farmers, and the associated complexity of that compliance. Additionally, the complexity and uncertainty

of the scientific measures used to model regulation and restrictions around farming practices were also discussed as a significant challenge for landowners and regulators alike.

> *"Short-term for most is just the complexity of having to comply. And it's significantly greater than what's ever been required before just in terms of having an actually audited farm environment plan… The science and the methodology for determining limits on nutrients, diffusion and nutrient losses is complicated and grey in some areas which is not helpful."* Marcus (ECan)
>
> *"Probably our greatest challenge is actually our data and evidence. What evidence do we have that things might be getting better or getting worse? Another problem is it the stuff can take decades to turn around… Is it good enough? Is it actually making a difference? Is it going to be enough? Will we need to do more? What does sustainable farming actually look like? And I don't know if we've really defined that yet."* Oscar (ECan)

The removal of certain farming practices from high-risk areas or land was also seen as a significant challenge that will need to be faced in the future. With uncertainty around accountability adding to that challenge

> *"…could be that some areas, they're just no-goes for that sort of farming, which is a really tough decision… If there are some places that just aren't suitable for farming because of the environmental effects, then they might have to move or de-stock and who's going to pay for it?"* Oscar (ECan)

One standout response from Matt, an HBRC interviewee, highlighted the significant challenge of remaining profitable for farming operations. This unique perspective may have been driven from this interviewee's close working relationship to farmers in the area, and their awareness of the harsh business landscape farmers face, regardless of compliance and regulation. Other council representatives did not express a shared concern for the financial wellbeing of farmers within their region, tending to focus on higher-level concerns such as regulation.

> *"Short term it's always going to be profitability. Seven years out of ten on the East Coast of North Island you're not making any money, in fact in most cases you're losing money… We are still facing that fundamental issue here of succession. The cost of land. Getting new farmers on board…"* Matt (HBRC)

4.8 Chapter Conclusion

This chapter has summarised the key findings of this research carried out through a series of interviews with farmers and local government representatives, in the form of six key themes, and the associated contributing factors. Significant concepts were explored in this research, including sustainability and agricultural sustainability, with the unique perspectives of interviewees being investigated and highlighted.

Interviewees demonstrated a vast range of expertise, with farmer participants sharing their knowledge and understanding of both theoretical concepts as well as practices, behaviours and initiatives. Additionally, regional council interviewees provided their knowledge, understanding and expertise of policy and regulation implementation, communication, engagement and marketing strategies concerning the environment and sustainability issues. Therefore, it is the view of the researcher that sufficient qualitative data has been collected and analysed to provide insight and understanding into issues of sustainable agriculture, how it can be encouraged and promoted and the differing views and opinions of farmers and local government organisations.

This chapter has demonstrated that at a macro/long-term level, goals of farmers and local government are aligned concerning the environment. Both parties wish to see the natural resources of New Zealand preserved, protected and improved to allow farming to continue, but not at the expense of those natural resources. This research has also highlighted that there is a disconnect between these groups, driven by issues of insufficient timeframes and accountability. Both farmers and local government representatives suggested that this disconnect can be improved through better engagement and communication between the groups. Improvements could be made in numerous areas, with increased education of members of both groups, increased personal communication and engagement and the adaptation of marketing and communication strategies to provide clear and concise information to meet the needs of farmers. Additionally, a perceived internal disconnect within local government structures was discovered, as well as issues surrounding farmer representation. Acknowledgements towards the difficulty in improving this representation were made, with the opportunity for future research into this specific issue arising.
Ultimately, driving sustainable agriculture in New Zealand was considered a delicate balancing act by interviewees, with numerous stakeholders all playing a significant role in the often daunting task of managing the resources of this country and encouraging sustainable behaviours, thinking, practices and innovations. Sustainable agriculture can and is driven by individual farmers' values, beliefs and good management practices. However, the role of regulation, celebration, accountability and innovation all contribute to the goal of sustainability.

While some themes that arose in this chapter have been investigated in previous literature, others including the use of celebration tools to encourage sustainable agriculture and the emphasis on practical demonstration and personal engagement were, to the best of the researcher's knowledge, unique to this research. Opportunities for further research also arose throughout the research process and is discussed further in Chapter Five, along with comparisons between key topics, issues and insights provided by farmers and local government representatives, as well as the limitations of this research.

Chapter 5: Discussion and Conclusion

5.1 Introduction

The purpose of this thesis was to investigate communication and engagement between two groups, farmers and government bodies, regarding sustainable agriculture. This thesis aimed to analyse issues of sustainable agricultural policy, practices, and behaviours, alongside political communication, providing insight into ways in which engagement and communication could be improved to help drive sustainability in New Zealand farming.

This thesis has been presented thus far over four chapters, each discussing different aspects of the research. These chapters included an introduction to the fundamental concepts of this research and the issues that are present in this area, a review of relevant literature including previous research into the key topics, explanation and justification of the methodology this research has used, and summary of the key findings from this research, grouped into themes. This chapter builds upon the previous chapters, addressing the overarching research questions of the thesis, the key themes of both the farmer and local government representative interviews, the practical and theoretical implications of this research, as well as the limitations of this research and future research direction.

5.2 Discussion of Findings

The research questions for this investigation are listed below:

1 What are farmers' understandings of sustainability?

2 How does this understanding influence their practices and behaviours?

3 How do farmers interact and engage with local and central government?

4 How can farmer-government interaction and engagement be improved through marketing techniques?

In order to attempt to answer the research questions above and address the issues laid out in the Introduction chapter, relevant academic literature was reviewed before a series of qualitative interviews were carried out. The themes generated through thematic analysis each relate to one or more of the four guiding research questions, providing new insight into areas of sustainable agriculture as well as political and environmental communication. Six key themes were discussed in the previous chapter, four of which related to the perceptions and responses provided by farmers, with two additional themes representing the views and opinions of local government representatives. These themes included: the motivations and influences of farmers, farmer's perceptions of agricultural sustainability, farmer perceptions of government, farmer perceptions of their engagement and communication with government, government's role in sustainable

agriculture and the regional councils' perceptions of engagement and communication with farmers. Specific findings from the farmer interviews can be compared alongside those provided by the local government representative interviews, to provide a greater understanding of the issues of sustainable agriculture and farmer-government engagement and communication.

Farmers revealed that in general, long-term profitability was an important goal and priority for their farming operations. This goal was supported by individual values of sustainable farming and a general care for their resources including livestock, their mental health and that of their staff, soil, water, native and exotic plants and wildlife. These goals were heavily linked to succession planning as well as improving productivity, with some interviewees classing their goals into a hierarchical system. These findings relating to sustainability goals are aligned with existing literature, in part, as a recent report revealed that 92% of farmers are focused on improving environmental sustainability on-farm (MPI, 2019). Additionally, some participants revealed that sustainability initiatives could lead to improved productivity and profits, which aligns with statements in existing literature such as Sharma et al. (2010), with financial incentives being suggested as one of the main drivers for sustainability within a business.

The goals and priorities of both Environment Canterbury and the Hawke's Bay Regional Council were heavily linked to the sustainable management of resources on a regional scale, rather than on an individual farm operation scale. These goals were prescribed under the Resource Management Act 1991 and included economic development, as well as community, social and cultural wellbeing. Farmers often referred to leaving their properties in a well maintained state so those that come after them, including their children or potential buyers, would be able to farm the land as well as they had, and continue to be profitable. Local government representatives indicated that their goals encompassed not just the protection and preservation of resources for farming business, but for all members of their communities. Findings revealed that there is some level of alignment between the goals of farmers and the local government bodies on a 'macro-level' or 'long-term scale'. Issues of timing and accountability were raised by both sides, as well as the 'nature of politics' and a lack of consideration of social issues in rural communities. These findings also agree with existing literature, which has suggested that in order to achieve sustainability goals, these goals must be agreed upon and supported by all stakeholders (Bridges & Wilhelm, 2008; Sharma et al., 2010). Similarly, sustainability cannot be achieved simply through compliance. Instead, it must be led by managers (e.g. farm owners and managers) (Adams et al., 2016), those high in the supply chain (farmers), and supported by stakeholders (government, purchasers and suppliers) (Foerstl et al., 2015).

In terms of the challenges faced by individual farmers and the New Zealand agricultural industry as a whole, there was consistency in findings across interviews (both farmers and council representatives) and previous literature. Critical environmental challenges relating to the protection and use of resources were present in both the findings of this research and the literature. These critical challenges include the

prevention of further soil degradation, prevention of sediment run-off, improving water quality (Gregory, 2008; Piddock, 2019), reductions in point source and non-point source pollution, protection of biodiversity (Environment Foundation, 2018), and reducing carbon emissions on-farm (Greenpeace New Zealand, 2018). Additionally, as confirmed by farmer regional council interviewees, the acceptance of the challenges surrounding the negative impacts of farming, by default, will lead to increased regulation and compliance for farmers in New Zealand (Monaghan et al., 2007; Nagels et al., 2002). Further insight into this challenge was also discovered, as farmers feared that increased compliance and regulation would have high time- and financial-related costs. Cultural challenges including the perceived rural-urban divide, spread of misinformation, accountability issues, and fears over the lack of succession of farms were also seen as important challenges facing the industry. Previous research has identified cultural challenges facing the industry, particularly the rural-urban divide (Holmes, 2019).

The representation of farmers in the political process was not a specific area of concern when the research design of this thesis was being formed, nor was it a key area in the underlying research questions. However, as the interview process progressed, concerns surrounding farmer representation in New Zealand politics were raised by both farmers and local government representatives. Issues surrounding how representation is measured as well as the disparity between the economic contributions of the agriculture sector and the political representation of that sector were also key findings. Some farmers held the fear that any drive they make for further representation may lead to increased scrutiny or an impact on fundamental democratic rights. Issues with advocacy groups and industry bodies were also raised, with some interviewees doubting the strength of organisations such as Federated Farmers to represent the views and concerns of farmers. Practically, a perceived lack of farmer representation adds to the disconnect present between farmers and government. Some farmer interviewees stated that they would be more inclined to engage with their local government representative if that representative had an agricultural background. Therefore, with a perceived lack of representation comes a lack of engagement and communication. The issues surrounding the lack of political representation for New Zealand farmers were an important finding of this research, but detailed investigation of this topic, its drivers and possible remedies, was outside the scope of this research project. Therefore, this issue and its associated implications could be an area for future detailed research and analysis.

Traditionally, some of the communication methods between government bodies such as a regional council and farmers has been perceived as dictatorial by farmers in some sense, with interviewees discussing the shortcomings of this approach in the previous chapter. When this forced compliance approach to communication between the groups has been used in the past, farmers have tended to disengage. One council interviewee revealed that in the past, farmers had been actively avoiding material from the council, throwing away letters with ECan branding without reading them. This issue echoes previous literature, such as Prakash (2002), in which it was argued that pressures from legislation and regulators are considered

a nonmarket influence and that firms (farms) often do not have sufficient incentives for adopting green policies. Personal communication and one-on-one informal meetings were found to be a sought-after communication method for farmers, closely linked to trust and relationship building which was seen as essential by council representatives. In-person conversation-based communication was seen as effective for sharing information and gathering concerns held by farmers, but practically difficult to implement. Factors such as a geographical size and population of areas were found to impact the communication style selected by regulators such as the regional councils. Additionally, the financial resources of organisations such as the Hawke's Bay Regional Council have also limited the use of external marketing and communications providers. The findings of this research also revealed that broad level communication (emails and hardcopy mail-outs) must be supported by detailed personal communication, including meetings an on-farm visits to be effective. Online communication, aided by technology including podcasts and video-conferencing, could also provide the opportunity for follow up communication and engagement between regulators and farmers, with some interviewees suggesting these communication methods are a valuable support technique to traditional communication, particularly with younger farmers.

Additionally, generational differences were revealed to require targeted marketing and communication techniques. Social media marketing was viewed as more appropriate for younger farmers. These findings somewhat align with existing literature (Miller, 2017a, 2017b). However, some literature has suggested a reliance on online platforms for communicating with farmers (Miller, 2017a, 2017b) which differs significantly from the findings of this research. The communication methods and sources of information relied on by farmers in this study align more with Rahman et al. (2016) which argued that farmers mainly prefer to source their information on practices and policies from their neighbours, television, experienced farmers, radio, input distributors, newspapers and on-farm labourers. A key theory discussed in the literature review chapter was the Diffusion of Innovation Theory (Mahajan & Peterson, 1985). This theory stated that business can be influenced by their social system. This influence can refer to encouragement and pressure for adopting sustainable practices and behaviours within the business. The findings of this research indicated that other farmers, family members, input suppliers such as fertiliser companies, purchasers such as meat and dairy companies, and regulators such as regional councils, could all be considered a part of a farming business's social system. The Diffusion of Innovation Theory has already been successfully applied to organic farming, treating organic farming practices as the innovation, and investigating how that innovation spread throughout a farming community (Long et al., 2016). Further investigation of this theory within the context of New Zealand agriculture could add greater insight, as this research has demonstrated that local government is a part of farmers social system, but other relationships such as those between farmers and purchasers could be further explored.

Both farmers and local government representatives revealed that typically, forced compliance regarding farming practices is met with resistance by farmers, and can lead to a reduction in engagement. Further to

this, a perceived disconnect between farmers and government bodies was revealed, due to a lack of basic agricultural knowledge and appreciation held by both local and central government employees and representatives, as perceived by farmers. This finding aligns somewhat with discussion from Schafer (2019), which argued that public administrators' perceptions, beliefs and behaviours and the representativeness of the bureaucracy impact the levels of public engagement. A general unwillingness of some farmers to engage with government was revealed in the findings of this thesis, which could be explained by the issues discussed above. Furthermore, a political party's image has been described as an integral part of political communication (Foster, 2010), which is referenced in the findings of this research, with the image of the current central government as well as the upper management and elected councillors of some regional councils being called into question. Some farmer interviewees have understandably judged both central and local government representatives on their support of perceived 'anti-farming' policies, driving disconnect and a lack of trust for those representatives. Again, comments suggested that this is heavily influenced by the distribution of votes, with the majority of New Zealand voters living in urban centres and farmers contributing a minority of votes.

A general disconnect in the communication styles between the two groups analysed in this study was also found, with local government often using theoretical discussion and models in their communication, while farmers expressed a desire for practical demonstration, logical and straightforward processes of communication, including the costs and benefits of new regulation, for example. This area has not been discussed in-depth in previous literature and has provided a basis for both theoretical and practical implications, discussed further in the next section of this chapter.

Government, be it on a local or national level, is considered a facilitator of sustainable agriculture through the promotion of technological innovation and rural entrepreneurship, just as technological innovation is seen as a key way for increasing sustainable agriculture (Aerni, 2009). These statements from Aerni (2009) support the findings of this research regarding local government support for the celebration of successful sustainability focussed farmers and their operations. This celebration was described to interviewees as awards systems and coverage such as documentary-style television series demonstrating the success of sustainable-based initiatives, practices, and behaviours. Findings indicated that this celebration was perceived as positive for encouraging other farmers to adopt sustainable farming practices as a form of peer-pressure. Additionally, celebration was viewed as a positive form of communication for 'telling the farming story' and changing public perception of agriculture. Local government was found to have provided ongoing support for such celebrations from a sponsorship perspective, aligning their brand and that of successful farming operations. This aligns with existing literature which has stated that the central goal of environmental communication is the promotion of good practice (Meisner, 2015). However, other sources have suggested that this encouragement has not been present enough in New Zealand and not at an adequate rate (Williams & Richardson, 2004). Findings from this research suggested that the concerns

present in Williams and Richardson (2004) are being addressed to some degree, with comments referring to the opportunity for further alignment between the groups. Regional council representatives suggested that they would look to capitalise off further engagement with high performing farmers, including the sharing of knowledge and innovation in the agricultural sector, and farmers and government bodies working together to drive sustainable agriculture. A possible extension of this would include local government supporting and subsidising high performing or 'model' farmers, that have already implemented sustainable based practices and are abiding by new regulation, to hold demonstrations and workshops on their property. This would be farmer led communication and farmer-to-farmer engagement, avoiding and limiting issues of farmer-government disconnect.

Coupled with findings regarding the celebration of high performers were those relating to the accountability of poor performers in the New Zealand agricultural industry. Findings suggested that farmers saw certain risks associated with increased accountability for poor performing farmers in the public eye, such as contributing to the misrepresentation of New Zealand farmers in the media and that it could run counter to the objective of 'telling the farming story'. Findings from both groups of interviews indicated that responsibility of holding poor performing farmers (those not meeting environmental standards) should be that of industry members such as suppliers of farming inputs such as fertiliser companies, and purchasers of agricultural products such as meat companies, rather than local or central government. Additional findings also suggested that the accountability of farmers can be improved with evidence, such as reliable long-term testing of waterway quality.

While the issue of farmer accountability has not been investigated explicitly in existing literature, some of the key findings in this area add to previous arguments regarding shared ecological responsibility. The findings of this research suggest that responsibility and accountability are not evenly shared between all stakeholders, however, in order to achieve sustainability goals, these goals must be agreed upon and supported by all stakeholders (Bridges & Wilhelm, 2008; Sharma et al., 2010). Likewise, sustainability cannot be achieved simply through the forced compliance of operators, but rather must be led by managers (e.g. farm owners/managers) (Adams, et al., 2016) and by those high in the supply chain (farmers) and supported by stakeholders (central and local government, agricultural suppliers and purchasers, end consumers) (Foerstl et al., 2015).

5.3 Theoretical Implications

This thesis aimed to investigate issues of sustainable agricultural policy, practices, and behaviours alongside political communication, expanding on existing literature. Previous studies into issues of sustainability are relatively abundant, with an increased focus and awareness of sustainability issues, including sustainability marketing and sustainable development in modern society (Bridges & Wilhelm,

2008; Sharma et al., 2010). However, existing literature investigating sustainable agriculture has tended to examine on-farm practices and behaviours relating to sustainability, rather than external influences such as local and central government as drivers of sustainable agriculture, and regulators of environmental impacts (MacLeod & Moller, 2006; Smith & McDonald, 1998; Šūmane et al., 2018; Yunlong & Smit, 1994). As the impacts of agriculture pose significant long-term concerns environmentally, economically and socially (Hutching, 2018; Piddock, 2019), it is essential to investigate all channels that could in some way, lead to improvements in sustainable agriculture. To the knowledge of the researcher, there are no other studies directly examining the relationship and disconnect between New Zealand farmers and local and central government, with a specific focus on engagement and communication methods concerning sustainable agriculture.

One of the key theoretical contributions of this research is the discovery of limiting factors that prevent sustainable agricultural goals from being achieved. Existing literature has emphasised that all stakeholders in an industry must share an understanding and willingness to achieve sustainability goals, with some members holding a leadership role (Adams et al., 2016; Bridges & Wilhelm, 2008; Foerstl et al., 2015; Sharma et al., 2010). However, this shared understanding and willingness is impacted on within this context by issues of timing, lack of accountability, the 'nature of politics', a lack of consideration for social issues in farming communities and issues relating to farmers' political representation. While the environmental goals of farmers and local government were mostly aligned, the timeframes within which each group hoped to achieve their environmental goals differed greatly. Farmers suggested that the expectations placed on them by regulators did not provide them enough time to make significant on-farm changes. This was magnified by the perceived time and financial costs of implementing regulated and enforced sustainable measures on-farm. Lack of accountability referred primarily to financial accountability for both farmer and local government representatives. With stricter environmental regulations being imposed on farmers, multiple interviewees from both groups questioned where the financial responsibility would lie. Findings suggested that stricter regulations may mean that certain farming types would no longer be able to operate in particular areas, and interviewees questioned who should pay for that change. This questioning adds to existing literature concerning sustainability goals. Farmers agreed that they can and should be leading sustainable agriculture efforts as the managers of their organisations (Adams et al., 2016; Foerstl et al., 2015). The findings relating to sustainable leadership are in alignment with existing literature, however, the uncertainty relating to accountability of sustainable change is a new concept, extending prior statements regarding the support required from all stakeholders for sustainable change (Bridges & Wilhelm, 2008; Sharma et al., 2010).

The 'nature of politics' was an interesting finding, with farmers expressing dissatisfaction with how politicians and local representatives often overlook issues occurring in the agricultural sector, in favour of 'keeping their seat' and pandering to the needs of the larger urban portion of the New Zealand voting

population. This issue expands discussion from Schafer (2019) which revealed that the representativeness of the political system is a major influence over the level of public engagement individuals participate in. As farmers indicated they were unhappy with how they were represented in the political process, this finding confirms the statement from Schafer (2019) within the New Zealand farming context, as this dissatisfaction from farmers lead to them having limited political engagement. Some interviewees discussed a perceived lack of consideration from local government for the social and cultural impacts of regulation on rural communities. Council interviewees stated that one of the roles of local government was to represent their communities and to protect the social and cultural wellbeing of those communities. Farmer interviewees suggested that the regional councils often struggle to perform that role to an acceptable level. Previous studies such as Chalmers and Joseph (1998) have looked at similar social issues in rural New Zealand, however that study focussed on health and care for the elderly in rural communities.

As discussed in previous sections, there have been no detailed studies on the communication and engagement between New Zealand farmers and government bodies. This research has somewhat filled this gap in existing literature, furthering the discussion provided by previous studies. Previous literature on the topics of sustainable agriculture and marketing to farmers has primarily focussed on the different sources farmers rely on for information (Long et al., 2016; Mahajan & Peterson, 1985; Miller, 2017a, 2017b; Prakash, 2002; Rahman et al., 2016). The findings of this research extend past what sources farmers rely on, and instead investigated in detail how farmers communicate and engage with the sources, and how those sources communicate back, particularly local government. Personal communication, trust and relationship building, simplicity and logical demonstration, as well as the celebration of sustainably successful farming operations, were found to be vital elements of communication and engagement. Factors including geographical size and population of different areas within regions were found to impact the appropriateness of communication styles and marketing techniques. Additionally, the variations in ages of farmers meant that targeted marketing and communication techniques are required for different age groups within the New Zealand farming community. Again, these factors have not been discussed in-depth in the existing literature within this context. Celebration of successful sustainability focussed farms, in particular, added to the existing theoretical discussion of environmental communication for promoting good practice (Meisner, 2015) and the role of government in promoting innovation to encourage sustainability (Aerni, 2009).

This research also makes a theoretical contribution to the areas of political engagement (Schafer, 2019) and political communication (Foster, 2010), albeit in a relatively focused context, as a perceived disconnect between farmers and government was highlighted, providing reasoning for a general lack of engagement and ineffective communication between the two groups. This disconnect was fuelled by a lack of basic agricultural knowledge and appreciation held by both local and central government and a general disconnect in the communication styles between the two groups. The findings of this thesis confirm the

statements from Schafer (2019) within the context of New Zealand agriculture, with farmer interviewees suggesting that their negative views of public administrators' perceptions, beliefs and behaviours regarding farming drove a disconnect between the groups, preventing meaningful communication and engagement. While these factors have been discussed at a broad level in literature including Schafer (2019), this thesis is the only research to examine these influences in a focussed manner within the New Zealand farming context.

5.4 Practical Implications

The theoretical implications discussed in the previous section tie closely to numerous practical implications based on this research and the resulting findings. The practical implications listed in this section apply primarily to local government bodies, specifically regional councils, as they describe how the core findings of this research can be applied to improve communication and engagement between local government and farmers. It is hoped that this improvement will not only reduce the disconnect present between the groups, but may increase the uptake of sustainable farming practices and behaviours, and reduce the tension that arises when new environmental regulation and policies are introduced to the regions. Flow on impacts of these improvements may include a strengthening of the New Zealand brand, environmental gains benefiting other industries such as tourism and a step towards a reduction in rural social issues such as farmer mental health.

It is evident throughout the findings that while resource users (farmers) and regulators of use of those resources (local government) share common long-term goals and values, tension can occur during the communication and engagement process relating to those goals. McKenzie-Mohr (2000) suggested that significant, focussed research into topics such as behaviour change for the adoption of sustainable practices was considerably lacking. Therefore, the findings of this research suggest that detailed communication plans need to be developed and implemented, in order to communicate with farmers when a significant change in regulation and compliance occurs, such as a plan change similar to Plan Change Six in the Tukituki catchment. In line with the key findings regarding communication and engagement, numerous aspects should be included in these plans. These aspects are as follows: limited council branding, theoretical and model-based language, avoidance of disputed terms within the farming community such as climate change and sustainability, in favour of straightforward content, based on practical benefits to farmers and how initiatives will help them in the medium to long-term to achieve their financial and sustainability goals. Communication should be tailored to the different demographics within the farming community, particularly age, with an emphasis on print material and in-person conversation communication for older farmers, and a mix of email, social media and in-person conversation for younger members of the industry. These plans should involve on-farm visits carried out by dedicated teams with

expert agricultural knowledge. Implementation of such communication plans would avoid the issues raised by farmer interviewees, helping to build rapport, trust and relationships between the two groups.

The research findings suggest that there is a significant disconnect in the communication styles between the two groups analysed, and have demonstrated what the target audience (farmers) respond to negatively, and what they respond to positively. The findings of this research imply that the positive communication styles detailed above will be the most effective at reducing the current disconnect, as well as at encouraging sustainable farming in New Zealand. These recommendations would be limited by budgetary restrictions. However, financial support from central government, to allow local government to undertake these actions, is strongly recommended and seen as essential from the findings of this research. These communication plans should be supported by a social marketing approach, promoting sustainable behaviours to both business (farmers) and other stakeholders (consumers, government, purchasers and suppliers) (Gordon et al., 2011). Government support for social marketing campaigns detailing the benefits of sustainable agriculture to farmers and the general public would further aid the reduction of any disconnect between rural and urban populations as well as the farmer-government disconnect. This approach would move beyond behaviour change marketing discussed by ECan interviewees, with an increased focus on social change (Brennan et al., 2014), so help shift the public perception of agriculture in New Zealand, and have all stakeholders actively encouraging sustainability within the agricultural sector.

Local government bodies have already aligned themselves with awards used to celebrate and promote sustainable agriculture from a sponsorship perspective. However, this action could be furthered by the development of their own awards systems, becoming the naming sponsor of an award system, rather than just a supporter of existing awards such as the Ballance Farm Environmental Awards. However, the role of regional councils has been seen to be as a regulator, ensuring minimum standards are met while remaining objective. Findings have suggested that the promotion of innovation and encouragement of good environmental practice should begin to form an element of the role of regional councils.

Many practical benefits could result from the implementation of the findings discussed above. Improvements to communication and engagement between farmers and local and central government would ultimately, when combined with other sustainable-based initiatives, lead to better uptake of sustainable farming practices and behaviours, a reduced disconnect between farmers and government, and positive impacts on social issues including farmer mental health and improving the agricultural industry in the eyes of the general New Zealand public. A reduction in the fear held by farmers of government bodies and forced compliance could also be mitigated by improved communication and engagement, which would help reduce the issue of declining rates of people entering the agricultural industry.

Sustainable agriculture is an essential part of New Zealand's brand image and plays an integral role in not only the agricultural industry but also impacts other key areas of the New Zealand economy such as tourism, as well as holding significance in social and cultural realms. It is often said that having a conversation is the first step to overcoming issues, but how exactly that conversation is occurring has been disregarded in existing research relating to sustainable agriculture. The practical and theoretical implications of this research aim to improve how the difficult conversations around New Zealand farming are handled, and how the shared environmental goals of New Zealand society can be achieved.

5.5 Limitations and Future Research Direction

While this thesis, and the research process, were carefully planned and justified based on existing literature, some limitations of this research have been identified. Limitations of exploratory research are often common due to the nature of the research. The scope, timeframe and financial budget of this research all provided restrictions for this research but also ensured that an appropriately sized thesis was produced.

Firstly, the budgetary and time restraints of this research limited the number of participants. The researcher believed that data saturation was achieved with the completion of 15 interviews, as previous literature has suggested that data saturation in qualitative interviews can occur after the completion of 12 interviews (Guest et al., 2006). Even though data saturation occurred, the sample could have been widened to include more participants, as this research was exploratory in nature. Participants in this study were sampled from only two regions in New Zealand, Hawke's Bay and Canterbury, with all but one of the farming participants coming from the Hawke's Bay region. This limits the transferability of the research. This limitation occurred due to the lack of response to the researcher's advertisement on social media asking for participants from both regions, as the researcher then drew on their personal network in the Hawke's Bay region to supplement the sample. As some of these participants personally knew the researcher, this may have increased their willingness to discuss issues of sustainable agriculture and political communication and engagement. However, the opposite may have also occurred. With a greater timeframe for research and a higher travel and incentive budget, additional interviewees could have been sourced from numerous other farming regions across the country, to provide further comparison of both sustainable farming practices and perceptions of farmer-government communication and engagement.

A further limitation of this research was that the sample of interviewees only included male participants, as those were all that expressed interest and willingness to participate. However, the diversity in age, experience levels and size/type of farming operation, as well as diversity in the range of roles held by local government representatives provided variation in the qualitative data and unique perspectives for analysis. Participants included farm owners, managers, leaseholders and shareholders, elected regional councillors, catchment managers, service delivery managers, and a lead advisor for special projects with Environment

Canterbury. The operations of farmer interviewees varied in size from 40 to 11,000 hectares, including sheep, beef, dairy and deer operations.

The description of the research to potential participants may have also raised the issue of the study only attracting those that are sustainability-minded. All participants in the study held a reasonable level of concern for environmental issues and participated in sustainable initiatives and practices, whether they described their behaviours as sustainable or not. Perspectives from those with overall negative views towards sustainability issues would have provided greater insight, however, sourcing participants that held such perspectives would have required a different research approach, possibly including some form of deception which the researcher has avoided in this thesis. As it was not the intention of this research to represent the views of all New Zealand farmers and local government organisations, this limitation is somewhat minimised.

Some level of bias is often present in qualitative research, as the research process and interviews are designed by a human researcher (Shenton, 2004). The use of research supervisors as auditors (Lincoln & Guba, 1985) as well as the researcher holding themselves accountable and acknowledging their perspectives and motives (Baxter & Eyles, 1997) helped to limit any bias to a minimum. The researcher, who was raised in rural New Zealand, has witnessed how unsustainable farming practices have impacted the natural environment of New Zealand. The researcher's experience within the agricultural industry has been a strength of this study, in both forming networks used in participant sampling, as well as aiding in understanding the individual farmers who were interviewed. In order to overcome the personal views and opinions held by the researcher in future investigations, use of a research partner external to the New Zealand agricultural industry to aid in the analysis of themes would be appropriate.

While this research has produced reliable findings based on the criteria laid out in Chapter 3, and contributed to both existing literature and provided practical recommendations for improving farmer-government communication and engagement, some of these findings will need to be empirically tested, perhaps through the use of focussed case studies into the success of improved communication and engagement methods. While this research aimed to answer the key research questions laid out in previous sections, it also highlighted other areas of concern that have not been investigated in existing research and formed new questions that require further research.

Firstly, the issue of farmer representation was raised throughout the research process. While this particular topic was not a core focus of this research, clearly the opinions of farmers and some council representatives indicate that further investigation into farmer political representation is required. Further research could be seen as essential for improving not only issues of representation, but also in encouraging sustainable agriculture through better representation.

The second area of concern revealed through the qualitative interview process was the negative social implications of some environmental legislation and regulation for rural communities. Such research would need to include considerations and investigation into farmer mental health, the cultural challenge of the rural-urban divide, and the preservation of the rural New Zealand culture and its traditions.

Finally, the key findings and themes discovered in this research are limited to a rather narrow context within the New Zealand agriculture industry. Similar studies into the themes and issues discussed in this thesis could be required in other contexts, such as different regions around New Zealand or in other countries that also produce agricultural products such as Australia and Brazil. Furthermore, research examining any disconnect, engagement and communication between government other and industries outside of agriculture could also be examined, such as in the tourism, entertainment, hospitality, viticulture and horticulture industries.

5.6 Conclusion

Marketing of sustainable agriculture, including practices and policies relating to sustainable farming, was the overarching topic area of this thesis. Specifically, the purpose of this research was to investigate communication and engagement between two groups, farmers and government bodies, regarding sustainable agriculture. This thesis aimed to analyse issues of sustainable agricultural policy, practices, and behaviours alongside political communication, providing insight into ways in which engagement and communication could be improved to help drive sustainability in New Zealand farming, detailed in the previous sections of this chapter.

Several areas of interest were uncovered throughout this study, categorised into major themes. Insightful findings throughout this thesis have aligned with and extended existing literature, in the focussed context of this research, with other findings running counter to statements made in previous literature. A general disconnect was discovered between farmers and government bodies, particularly regional councils, providing valuable insight into communication and engagement methods, and their effectiveness. Farmer and government goals, values, influences and communication styles were analysed, as well as significant environmental, economic, social and cultural issues relating to sustainable agriculture. Some of these areas, such as the impacts of environmental regulation on rural New Zealand culture and farmer mental health require further detailed investigation, as these issues, while incredibly important, fell outside the scope of this research.

This chapter has detailed the key findings based on the thematic analysis carried out by the researcher, and compared those findings to existing academic literature, uncovering alignment, extensions of existing theory, and new insight that has, until now, not received dedicated investigation. Additionally, the key findings of this thesis have also been presented in this chapter as key theoretical and practical implications,

adding to the academic literature on sustainable agriculture and providing tangible recommendations to local government organisations such as the Hawke's Bay Regional Council and Environment Canterbury.

Ultimately, this research has achieved its intention of investigating communication and engagement between farmers and government bodies, regarding sustainable agriculture, and analysed issues of sustainable agricultural policy, practices, and behaviours alongside political communication. Overall, this has provided valuable insight into ways in which engagement and communication could be improved to help drive sustainability in the agriculture sector, on-farm, throughout New Zealand. The use of an exploratory research approach, aided by thematic analysis of interviews with those directly involved with the issues facing agriculture, resulted in useful insights, contributions and practical recommendations presented in this chapter. While the findings of this research are not universally tested nor a solution to every environmental issue present throughout the country, it has addressed an important area that has often been disregarded in existing research. Sustainability, sustainable agriculture and the pursuit of environmental goals have been and will continue to be a vital area of research, with such research essential for providing the basis for change and a significant shift towards safe food production, and the care of this planet's natural resources.

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Appendices

Appendix 1: Information Sheet for Interview Participants

Information Sheet

Department: Marketing, Management & Entrepreneurship
Telephone: +64 272875133
Email: sid.anderson@pg.canterbury.ac.nz
1/11/2019

Sustainable agricultural policy in New Zealand. Information Sheet for farmers and local government representatives.

My name is Sid Anderson and I am enrolled in a Master of Commerce in Marketing, currently completing my thesis. The purpose of my research is to find ways to improve communication between government and farmers with respect to sustainability issues. I am focusing my research on sustainability, political and environmental communication and the marketing strategies and initiatives that are present in local and national government with respect to agriculture. My research will involve a short interview with farmers and local government representatives in the Canterbury and Hawkes Bay regions of New Zealand.

If you choose to take part in this study, your involvement in this project will be an interview for a period of approximately 1 hour. This will focus on marketing strategies and initiatives within agriculture. This interview will take place at a time that suits you. This data will be recorded by me and will be kept confidential and will require a time commitment of approximately 1 hour. Audio recording will be used to allow me to have a recording of the answers in this interview. You are provided with a copy of this information sheet as well as the interview after it has taken place.

As a follow-up to my research, you will be asked to read and make any changes to the interview content if you find that the information is inaccurate or untrue. I will only use information that is provided and consented by you in my research. After this, there is no further involvement needed, but you are able to contact me at any time.

In the performance of the tasks and application of the procedures there are risks of confidentially, I will make sure that your identity is kept confidential, and any information identifying you, the participant, will be removed. I will be happy to meet in an environment and location that suits you best.

Participation is voluntary and you have the right to withdraw at any stage without penalty. If you know me, you are not obliged to take part in this research and are welcome to withdraw at any point. You may ask for your raw data to be returned to you or destroyed at any point. If you withdraw, I will remove information relating to you. However, once analysis of raw data starts on 7th January 2020, it will become increasingly difficult to remove the influence of your data on the results.

If you believe other farmers or local government representatives you know may be interested in this

study, you may provide them with my details and contact information at your discretion. This information sheet and consent forms will be provided to all participants, including those that are only interested.

The results of the project may be published, but you can be assured of the complete confidentiality of data gathered. Your identity will not be made public. To ensure anonymity and confidentiality, I will make sure that there is no trace of your identity in my research, with only my supervisor and myself having knowledge of this and access to the data. Not only will this be confidential, but I will also remove any information that may lead to identification. The data will be securely stored on my locked laptop in my locked flat and will be backed up on my university hard drive that is protected by a secured login, this will only be accessed by myself and will be destroyed after 5 years, in line with University of Canterbury Guidelines. A thesis is a public document and will be available through the UC Library.

Please indicate to me on the consent form if you would like to receive a copy of the summary of results of the project.

The project is being carried out *as a requirement for a Master of Commerce in Marketing* by myself, Sid Anderson under the supervision of Paul *Ballantine.* I can be contacted at sid.anderson@pg.canterbury.ac.nz and Paul can be contacted at paul.ballantine@canterbury.ac.nz. We are more than happy to discuss any concerns you may have about participation in this project.

In the Business School at the University of Canterbury we value Tikanga Māori and Mātauranga Māori. I have had an opportunity to talk about the initial objectives of this research with our Associate Dean Māori, Dr Tyron Love. If you have any questions, which I cannot answer directly, then Dr Love is more than happy for you to contact him at tyron.love@canterbury.ac.nz or on 027 406 4286.

This project has been reviewed and approved by the University of Canterbury Human Ethics Committee, and participants should address any complaints to The Chair, Human Ethics Committee, University of Canterbury, Private Bag 4800, Christchurch (human-ethics@canterbury.ac.nz).

If you agree to participate in the study, you are asked to complete the consent form and return the form to myself, Sid Anderson. We will provide you with a copy of both the consent form and information sheet if required.

Appendix 2: Consent Form for Interview Participants

Consent Form: Master of Commerce

Department: Marketing, Management & Entrepreneurship
Telephone: +64 272875133
Email:
sid.anderson@pg.canterbury.ac.nz

Marketing sustainable agricultural policy to New Zealand farmers. Consent Form for farmers and local government representatives in Canterbury and Hawkes Bay.

- ☐ I have been given a full explanation of this project and have had the opportunity to ask questions.
- ☐ I understand what is required of me if I agree to take part in the research.
- ☐ I understand that participation is voluntary and I may withdraw at any time without penalty. Withdrawal of participation will also include the withdrawal of any information I have provided should this remain practically achievable.
- ☐ I understand and give my consent to the audio-recording of the interview.
- ☐ I understand that any information or opinions I provide will be kept confidential to Sid Anderson and Paul Ballantine and that any published or reported results will not identify the participants, location, farm business or other identifying factors. I understand that a thesis is a public document and will be available through the UC Library.
- ☐ I understand that all data collected for the study will be kept in locked and secure facilities and/or in password protected electronic form and will be destroyed after five years, in line with the University of Canterbury.
- ☐ I understand the risks associated with taking part and how they will be managed.
- ☐ I understand that I can contact the researcher, Sid Anderson, sid.anderson@pg.canterbury.ac.nz or supervisor *Paul Ballantine, paul.ballantine@canterbury.ac.nz* for further information. If I have any complaints, I can contact the Chair of the University of Canterbury Human Ethics Committee, Private Bag 4800, Christchurch (human-ethics@canterbury.ac.nz)
- ☐ I would like a summary of the results of the project. I will make a summary of results available for participants if they would like this.
- ☐ By signing below, I agree to participate in this research project.

Name:_____ Signed:_____ Date:_____

Email address *(for report of findings, if applicable)*:_____

Appendix 3: Initial Interview Run Sheet

Interview Run Sheet- Farmers.

Opening questions/background: How long have you been farming for? Where are you currently farming? Farm size and type? Plans for the future of the farm?

Farmer motivations/influences:

- What are the primary goals of your farming operation? (Profits, improvement/protection of the land, to pass the farm on to children etc.)
- What do you believe the greatest challenges are for the New Zealand farming industry both short-term and long-term?
- How do you gather information that influence your farming practices/ (word of mouth, industry reports, mainstream media, learning from family/friends, professional farm consultants etc.)?

Agricultural sustainability:

- How do you define sustainability?
- What is your understanding of agricultural sustainability?
- *If the interviewee has very little understanding of these concepts, provide some definitions before carrying on. Sustainability: the need to develop models necessary for both humanity and our planet to survive (Sustainability Degrees, 2013). Sustainable agriculture: the need to develop technologies and practices that do not have adverse effects on environmental goods and services, are accessible and effective for farmers, and lead to improvements in food productivity (Pretty, 2008).*
- What practices are currently in place on your farm that aim to improve your agricultural sustainability?
- What drove or motivated these practices? (Regulations or other motivators e.g., neighbours, industry standards, personal choices etc.)? If no sustainable practices are in place, why not?
- What sustainable agriculture policies/regulations are currently in place within your region/nation-wide?
- What kind of farm environmental planning have you undertaken on your farm? Do you aim to implement a farm environmental plan in the near future?
- What are the greatest barriers you face when attempting to be more sustainable on-farm? (Costs, farm size, lack of information?)
- How do you think climate change impacts your farming operation now or in the future?

Perceptions of local government/regional council:

- What do you see as the main goals of the regional council? Are these goals aligned with yours as a farmer?
- Do you see local government as a driver of sustainable agriculture, or as an inhibitor? Why?
- Do you see central government as a driver of sustainable agriculture, or as an inhibitor? Why?

Farmer/government interaction and communication:

- What level of involvement do you have with local and national politics?
- How do you communicate with your national and local government representatives? (Local meetings, emails, phone calls etc.)
- Do you see the current levels of consultation and communication between farmers a local government as appropriate? More or less? Why?
- Do you feel, as a farmer, adequately represented in local and national politics?

- Have political campaigns of either parties or individuals ever influenced your on-farm practices/behaviours? Why/why not?
- What could the regional council do to help you and your farm become more sustainable?
- Do you believe New Zealand is a world leader in sustainable agriculture? Why/why not?

Do you have any further comments you would like to add? Or any questions about this topic?

Interview Run Sheet- Regional Council Representatives.

Opening questions/background: How long they have been in politics for. How long they have been on this particular regional council for? Is agriculture a significant economic contributor to this region?

Sustainability and Regional councils.

- Briefly, what are the main goals/objectives of your regional council?
- Are there any goals directly relating to environmental protection/ environmental sustainability?
- Do you believe the goals of central government, local government and farmers are aligned when it comes to sustainable agriculture? Or do they work against each other?
- What is your perception/understanding of sustainability?
- What is your perception/understanding of agricultural sustainability?
- What regulations/policies are currently in place within this region with respect to on-farm practices and the environment?
- Can you tell me about any environmental regulations/policies that will be implemented by this council in the near future?
- Do you think that local governments are drivers/enablers for sustainable agriculture? Why/why not?
- Do you think that central government is a driver/enabler for sustainable agriculture? Why/why not?
- What role do you think both local and central government play in improving sustainable agriculture?

Government/Farmer Interaction and communication.

- What level of interaction have you experienced with farmers as a local government representative?
- What forms of communication have you used when interacting with farmers in your region? (Public meetings, emails, phone calls etc.)
- Do you believe farmers are adequately represented in both local and national politics? Why/why not?
- Do you believe that the current levels of consultation and communication between farmers and local government is appropriate? More or less? Why?
- What marketing strategies are used by the regional council to inform farmers and promote any new regulations/policies/practices with respect to sustainability?
- Are you aware of any marketing techniques used to directly target farmers?
- Do you believe political campaigns can directly influence on-farm behaviour and practices? Why/why not?
- What do you believe will be the greatest challenge for farmers within your region in both the short and long-term? Why?
- What more could regional councils be doing to ensure sustainable agriculture is achieved within this region and across the country?

Do you have any further comments you would like to add? Or any questions about this topic?

Appendix 4: Final Interview Run Sheet

Interview Run Sheet- Farmers.

Opening questions/background: How long have you been farming for? Where are you currently farming? Farm size and type? Plans for the future of the farm?

Farmer motivations/influences:

- What are the primary goals of your farming operation? (Profits, improvement/protection of the land, to pass the farm on to children etc.)
- What do you believe the greatest challenges are for the New Zealand farming industry both short-term and long-term?
- How do you gather information that influence your farming practices/ (word of mouth, industry reports, mainstream media, learning from family/friends, professional farm consultants etc.)?

Agricultural sustainability:

- How do you define sustainability?
- What is your understanding of agricultural sustainability?
- *If the interviewee has very little understanding of these concepts, provide some definitions before carrying on. Sustainability: the need to develop models necessary for both humanity and our planet to survive (Sustainability Degrees, 2013). Sustainable agriculture: the need to develop technologies and practices that do not have adverse effects on environmental goods and services, are accessible and effective for farmers, and lead to improvements in food productivity (Pretty, 2008).*
- What practices are currently in place on your farm that aim to improve your agricultural sustainability?
- What drove or motivated these practices? (Regulations or other motivators e.g., neighbours, industry standards, personal choices etc.)? If no sustainable practices are in place, why not?
- What sustainable agriculture policies/regulations are currently in place within your region?
- Is spending on sustainable practices on your farm discretionary spending or a budgeted undertaking?
- What kind of farm environmental planning have you undertaken on your farm? Do you aim to implement a farm environmental plan in the near future?
- What are the greatest barriers you face when attempting to be more sustainable on-farm? (Costs, farm size, lack of information?)
- What are some barriers that other farmers may face, that you do not?
- Is the celebration of industry leaders/successful sustainable farming operations a valuable tool for encouraging others to take up sustainable practices?
- Is increased accountability through media channels of poor performers in the industry (those not meeting sustainability standards) a valuable tool for encouraging others to take up sustainable practices?
- How do you think climate change impacts your farming operation now or in the future?

Perceptions of local government/regional council:

- What do you see as the main goals of the regional council? Are these goals aligned with yours as a farmer?
- Do you see local government as a driver of sustainable agriculture, or as an inhibitor? Why?
- Do you see central government as a driver of sustainable agriculture, or as an inhibitor? Why?

Farmer/government interaction and communication:

- What level of involvement do you have with local and national politics?
- How do you communicate with your national and local government representatives? (Local meetings, emails, phone calls etc.)
- Do you see the current levels of consultation and communication between farmers a local government as appropriate? More or less? Why?
- What are the best channels/forms of communication for engaging with farmers?
- What are farmers most receptive to in terms of communication?
- Do you feel, as a farmer, adequately represented in local and national politics?
- Have political campaigns of either parties or individuals ever influenced your on-farm practices/behaviours? Why/why not?
- What could the regional council do to help you and your farm become more sustainable?
- Do you believe New Zealand is a world leader in sustainable agriculture? Why/why not?

Do you have any further comments you would like to add? Or any questions about this topic?

Interview Run Sheet- Regional Council Representatives.

Opening questions/background: How long they have been in politics for. How long they have been with this particular regional council for? Is agriculture a significant economic contributor to this region?

Sustainability and Regional councils.

- Briefly, what are the main goals/objectives of your regional council?
- Are there any goals directly relating to environmental protection/ environmental sustainability?
- Do you believe the goals of central government, local government and farmers are aligned when it comes to sustainable agriculture? Or do they work against each other?
- What is your perception/understanding of sustainability?
- What is your perception/understanding of agricultural sustainability?
- What regulations/policies are currently in place within this region with respect to on-farm practices and the environment?
- Can you tell me about any environmental regulations/policies that will be implemented by this council in the near future?
- Do you think that local governments are drivers/enablers for sustainable agriculture? Why/why not?
- Do you think that central government is a driver/enabler for sustainable agriculture? Why/why not?
- What role do you think both local and central government play in improving sustainable agriculture?

Government/Farmer Interaction and communication.

- What level of interaction have you experienced with farmers as a local government representative?
- What forms of communication have you used when interacting with farmers in your region? (Public meetings, emails, phone calls etc.)
- Do you believe farmers are adequately represented in both local and national politics? Why/why not?
- Do you believe that the current levels of consultation and communication between farmers and local government is appropriate? More or less? Why?
- What marketing strategies are used by the regional council to inform farmers and promote any new regulations/policies/practices with respect to sustainability?
- Are you aware of any marketing techniques used to directly target farmers?

- Are farmers easy to communicate and engage with in general?
- What are the best channels for communicating with farmers?
- Do you believe political campaigns can directly influence on-farm behaviour and practices? Why/why not?
- What do you believe will be the greatest challenge for farmers within your region in both the short and long-term? Why?
- What more could regional councils be doing to ensure sustainable agriculture is achieved within this region and across the country?

Do you have any further comments you would like to add? Or any questions about this topic?

Appendix 5: Human Ethics Committee Approval Letter

UNIVERSITY OF CANTERBURY
Te Whare Wānanga o Waitaha
CHRISTCHURCH NEW ZEALAND

HUMAN ETHICS COMMITTEE

Secretary, Rebecca Robinson
Telephone: +64 03 369 4588, Extn 94588
Email: human-ethics@canterbury.ac.nz

Ref: HEC 2019/55/LR

19 September 2019

Sidney Anderson
UC Business School
UNIVERSITY OF CANTERBURY

Dear Sidney

Thank you for submitting your low risk application to the Human Ethics Committee for the research proposal titled "How To Market Sustainable Agriculture Policy to New Zealand Farmers".

I am pleased to advise that this application has been reviewed and approved.

Please note that this approval is subject to the incorporation of the amendments you have provided in your email of 15th September 2019.

With best wishes for your project.

Yours sincerely

Dr Dean Sutherland
Chair, Human Ethics Committee