

Assessing the Potential for Local Food Systems in Otago

Report prepared for the Otago Dry Hill
sheep and beef farmer group

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1. Introduction

- 1.1. The concept “local food system” refers to the emergence and growth of community-based agriculture and food production activities that meet consumer demands for fresh, safe, locally produced foods; job creation; innovative entrepreneurship; enhanced environmental assurance and a strengthening of community identity.
- 1.2. The overall purpose of this project is to help communities enhance their understanding of a local food system and to explore the possibilities of developing such a system in their local area. A specific focus of the study is to understand the opportunities and challenges of a red meat farm production system and supply chain that is adapted to meet the needs of a ‘local food system’ initiative.
- 1.3. The study addresses these aims by:
 - Analysing the concept of a ‘local food system’, and exploring the drivers and philosophies that underpin these systems.
 - Evaluating consumer demand for a red meat supply chain that is underpinned by the principles of a local food system.
 - Assessing what product attributes are demanded by consumers who support the concept of a local food system.
 - Investigating how the consumer-demanded attributes can be demonstrated and verified in the supply chain.
 - Considering the factors that need to be addressed in order to adapt the existing red meat supply chain to meet the needs of a ‘local food system’ initiative.
 - Exploring business models that are suitable for engaging in local food systems.

Audience

- 1.4. This study has been produced to provide assistance to individuals and communities considering the development of a local food system initiative. The primary community of interest is farmers and food producers who are interested in how they could benefit from local food systems, and what they need to consider when evaluating the feasibility of such systems. It will also be of use to consumers who want to encourage the development of alternative food systems.

Acknowledgements

- 1.5. This project has been able to be completed thanks to the financial support provided by the Ministry for Primary Industries Sustainable Farming Fund (SFF), the Beef and Lamb Farmer-Initiated Technology and Transfer Programme (FITT), the Dunedin City Council’s Economic Development Unit (EDU) as well as financial contributions from John McRae, Lyn Marshall and Prue Wallis.
- 1.6. Many Wanaka and Dunedin restaurants, cafes and food retailers also gave generous food vouchers as part of the market research, which was central to this project. Your support is much appreciated.

- 1.7. Thank you to John McRae, Jinty MacTavish, Kate Wilson and Marie Casey who provided feedback and guidance through the development of this report. Thanks to Windshift for conducting the market research and the initial analysis, and to Niki Bould for further in depth analysis of the results.
- 1.8. Lastly, thank you to the community groups who assisted to publicise the market research, namely Sustainable Dunedin City, Sustainable Wanaka and the Otago Polytech.

2. Background

- 2.1. This project was initiated by a group of Otago sheep and beef farmers, known as the Dry hill farmers, with strong support from community and consumer groups in Dunedin and Wanaka. The diversity of this project group reflects one of the underlying principles of local food systems, which is that such systems should engage with all groups in a community.
- 2.2. The representative farmers in this group have all been proactive in seeking to explore opportunities for generating market advantage through demonstrable sustainable practice, and have identified 'locality' as providing a compelling opportunity for value-added food production.
- 2.3. Dry hill farmers often have fewer available options for increasing productivity at the farm-level, but are sometimes endowed with many of the physical attributes that appeal to consumers. These attributes include outstanding landscapes, low-intensity farming regimes, and a favourable environmental performance. Wanting to leverage off these attributes, the group identified that by reflecting locality in their products, there could be an opportunity to add value to their traditional commodity products.
- 2.4. The 2008 Meat Sector Literature Review for MAF identified farmers as having three strategic choices when considering how to position themselves in the market place. A strategic choice relevant to this research is that "[p]roducers can take greater control by getting closer to consumers through direct sales, where scale and year-round supply may well be of less importance and is attractive to food activists and 'foodies'" (2008:13). The report continues, "[a]s competition for food increases, food will become increasingly linked with identity. Producers will need to become more closely engaged with consumers; producers must consider consumption" (ibid.)
- 2.5. In recent years, the international 'local food' movement has emerged seeking to reconnect consumers with food they eat, to restore economic vitality to farm enterprises, and to encourage environmentally sound and socially responsible methods of agricultural production. In New Zealand, the proliferation of (approximately 50) successful Farmers' Markets bears testament to the growing consumer demand for fresh, local authentic food.
- 2.6. There is a large range of views as to what constitutes 'local food' and a 'local food system'. For many consumers and producers, there is a far deeper philosophy attached to 'local' than the spatial distance between the acts of production and consumption. Gaining a better

understanding of the attributes that are required to form part of a demonstrable local food system is fundamental to assessing its potential to meet the demands of individual communities.

- 2.7. Therefore, the study explores the wide range of values and views that people hold about local food systems, and what such systems constitute.

3. Project Methodology

- 3.1. The project is split into five main stages, which are as follows:

- Stage 1: Literature review;
- Stage 2: Market research;
- Stage 3: Developing principles;
- Stage 4: Assessing requirements of a local food system;
- Stage 5: Exploring business models for implementation.

Stage 1

- 3.2. The first stage of research involved completing a literature review to understand the drivers for demand and philosophies that underpin local food systems. This review sought to identify common themes through relevant international research in order to provide a context for the key drivers and motivators of local food systems and using that information to compare and understand the market research.

Stage 2

- 3.3. The second stage involved completing market research to understand the market demand for 'local' meat products, and the attributes that are of highest importance to consumers – eg. food locality / local landscape, direct contact with food producers, chemical-free production, strengthened local economies, transparency etc.

- 3.4. The market research focussed on understanding the views of:

- 'Typical' consumers that are representative of Dunedin and Wanaka;
- 'Conscious' consumer groups in Dunedin and Wanaka;
- Trade business groups involved in the food industry in Dunedin and Wanaka, such as restaurateurs, supermarkets and catering suppliers.

- 3.5. The market research sought to:

- Understand typical red meat consumption levels in Dunedin and Wanaka;
- Understand consumer preferences for various attributes that contribute to 'local';
- Generate a food industry perspective on 'local' and what constraints may exist in such a model;
- Understand the likely support from industry for such an initiative.

- 3.6. To fulfil these requirements both qualitative and quantitative research was completed. The former aimed at identifying the consumption levels and preferences of typical groups of consumers and the latter at understanding the attitudes and beliefs that shape the preferences of both consumers and food industry service providers.

Stage 3

- 3.7. The third stage of the market research used the analysis and information generated from the first two stages to develop principles which would guide the development of a local food system.

Stage 4

- 3.8. The penultimate stage of the project assessed and described the various requirements of a local food system, including the need for transparency, labelling and certification. Concurrently, we completed an assessment of the barriers and constraints associated with adapting existing meat supply chains to meet the needs of a local food system.

Stage 5

- 3.9. The final stage of the research involved assessing options of business models, which could enable the implementation of local 'red meat' food systems. This work included an evaluation of the strengths and weaknesses of the various management models and the associated systems that are required to successfully implement these business models.

4. The Principles and Drivers Behind Local Food Systems

- 4.1. Prior to exploring the local context and the local consumer and trade business drivers for demand within the Otago region, a review of national and international research was conducted in order to better understand the underlying principles and drivers for local food systems. Furthermore, the terminology 'local food system' holds a variety of meanings for producers and consumers, such as environmental sustainability, availability of healthier food, maintaining working landscapes and the importance of open space. Definitions of 'local food systems' for each stakeholder are essential to provide clearer understandings of the underlying principles and drivers.
- 4.2. The more literal definition of a 'local food system' will refer to the geographical area within which a food is produced, sold and consumed. Perceptions of the geographic parameters of 'local' have been shown to be very flexible and vary according to an individual's expectations. "For example, the New Zealand climate supports citrus fruit throughout a large part of the North Island but much of the South Island is too cold. Thus, for a person in the South Island an orange produced in the North Island could still be described as local, but in contrast a local apple would be defined as coming from the South Island" (Miroso and Lawson 2012:4).

- 4.3. Social attributes, such as mutual exchange and trust, are viewed by some as an important feature of direct agricultural marketing and local food economies (Hinrichs, 2000; Sage, 2003). This is reiterated by other research that discusses how producers and consumers in the urban areas identify more closely with face-to-face, direct markets that are physically proximate when they conceptualise their local markets or local food system. However, in places where there are fewer consumers and markets, 'local' is not necessarily defined as being physically proximate at all (Self and Qazi, 2004).
- 4.4. Martinez, et al., (2010) found that there was no consensus on a definition of 'local' or 'local food systems' in terms of the geographic distance between production and consumption. However, defining 'local' based on marketing arrangements, such as farmers selling directly to consumers at regional farmers' markets or to schools, was well recognised by both trade businesses and consumers.
- 4.5. Other research demonstrates how a consumer's rationale for purchasing local food can be broadly divided into either societal or personal motivations. Societal motivations include addressing issues of environmentally sustainability (e.g., fewer food miles or initiatives to address localised environmental issues), or being more socially responsible (e.g., support for local producers and the local economy). Personal motivations for buying local include "(1) it is more pleasurable (it tastes better and the purchaser has more contact with rural life); (2) it is seen as healthier (because it is fresher and eaten in season fewer chemicals are required to preserve the food for shorter transportation and storage times); and (3) it is perceived to be safer than non-local food because traceability of the food is possible for consumers who can feel more connected with their food producers." (Miroso and Lawson, 2012:5)
- 4.6. Beyond the more literal definition of 'local', common definitions of local food will often extend to who produced the food; the personality and ethics of the grower; the attractiveness of a particular landscape and other factors contributing to the 'story behind the food' (Martinez, 2010). The term 'provenance', meaning tracing the whole history of an object up to the present, is used to describe the method or tradition of production that is attributable to local influences, which often captures the essence of the local food definition (Thompson, et al., 2008).
- 4.7. Likewise, the 'foodshed' concept reconstructs the geography of food systems by attaching social and political decisions to food so as to be orientated within specific geographic spaces. Advocates of the foodshed concept consider that 'foodsheds' embed the system in a moral economy attached to a particular community and place, just as watersheds reattach water systems to a natural ecology (Starr, et al., 2003:303).
- 4.8. Related concepts are 'labels of origin', or 'terroir'. Terroir is a traditional French term which loosely translates as "a sense of place", which is embodied in certain characteristic qualities. Those special characteristics will often include the geography, geology and climate of a certain place, and the resultant distinctive qualities that are imparted upon a food or wine. Tying food to place via 'terroir' has resulted in modern marketing concepts such as 'labels of origin' and the marketing and cultural branding of food through its association with place (Ilbery and Kneafsey, 1998).

- 4.9. Sometimes linked with the 'place-based' local food system models are the food system models which have developed from community concerns about conventional industrialised food systems. As a result of various environmental, social and cultural concerns, many local food systems have appeared around the world in various forms in recent decades (Allen, et al., 2003). The overall goal of most of these initiatives is to provide a functional food system model that is "more environmentally sound, more economically viable for a larger percentage of community members, and more socially, culturally, and spiritually healthful" (Feenstra, 2002:100).
- 4.10. Many models of local food systems are unified by the relocalisation of the food economy, and in doing so effectively oppose the dominant industrial model that is firmly rooted in the global context. Guthman (2008) discusses how the goals and objectives of local food systems usually centre on reversing the processes of industrial food systems that consumers perceive as being harmful. This is reiterated in other research which discusses how local food systems are often based upon a philosophy which directly opposes the established conventions of the mainstream food system, whilst other food systems are designed to work alongside and fill gaps within existing conventional food systems (Allen, et al., 2003).
- 4.11. Many advocates of local food systems see profoundly negative ecological, socio-cultural and economic manifestations in the trends of dominant food systems and believe the "localization trend shifts the focus back to the context specific ecological and social factors global markets tend to externalize" (O'Hara and Stagl, 2001:535). Though often not easily described, people do develop associations between perceived losses of tradition, familiar landscapes, land uses and values, and the economic processes that result from globalisation. For such advocates, the current industrial food system creates a disconnection between the general public and the social and environmental consequences of the food being grown and eaten due to the physical and psychological distance between food production and consumers (Kimbrell, 2002:1).
- 4.12. The environmental movement encourages people to consider geographic dimensions in their food choices. Typical environmental concerns, in the New Zealand context, include soil and water degradation, and the reduction of ecosystem, species and genetic diversity associated with industrial agricultural practices (www.mfe.govt.nz/issues/water/freshwater; www.niwa.co.nz; www.mfe.govt.nz/issues/land/soil).
- 4.13. The community food-security movement seeks to enhance access to safe, healthy and culturally appropriate food for all consumers. Challenges to the dominance of large corporations also have contributed to efforts to expand local food. The Slow Food movement, which originated in Italy, is a response to homogenous, mass-produced food production, and the "fast" nature of people's lives, by encouraging traditional ways of growing, producing, and preparing food (Gaytan, 2003).
- 4.14. The local food movement also reflects an increasing interest by consumers in supporting local farmers, and in better understanding the origin of their food (Ilbery and Maye, 2005). This demand for alternative food systems is often driven by consumers who wish to support local farms and local businesses and to interact with the producers, seeking to strengthen the connection between local farmers and consumers (Starr, et al., 2003 and O'Hara, 2011). The presence of the farmers puts a face on the source of the food and reflects where and how it was

grown. “Embeddedness is described as sociocultural processes associated with relationships between producer and consumers such that food transactions are re-embedded in community and place. Trust, ‘relations of regard’, social interaction and more comprehensive information create the conditions for this relationship-based food transaction environment” (Hinrichs, 2000).

- 4.15. Other researchers explain that a key component of a functional local food system is the need to build capacity to produce, distribute and control food supplies, and to keep the control of the decision making within the community rather than losing it through dependence on external sources. Such food systems are then able to meet many of the needs of a local community far more than a globalised food production system because “it can give priority to community and environmental integrity before corporate profitmaking. . . while reinforcing social identity and cohesion” (Anderson and Cook, 2000:237).
- 4.16. As such, a “shortened food chain is considered a fundamental component of a ‘local food system” (Feagan, 2007:4). Shortened food chains are visible in the likes of farmers’ markets, where producers and consumers are closer both geographically and socially. The specific spatial distance can identify specific landscapes, may have less embedded energy (food miles) and can have a higher degree of transparency and trust associated with them. “A food system model that has a shortened supply chain can incorporate additional layers of information that are lost in more complicated food supply chains. Knowledge of farming practices, environmental practice, customs of production, the producers and their ethics and personalities, will often become information seen as fundamental in a shortened supply chain” (Ibid:4). According to Marsden, et al., (2000), a short food supply chain facilitates some form of connection between the food consumer and producer by providing clearer signals related to the origin of the food product.
- 4.17. In conclusion, the review of literature revealed that there are a number of reasons why local food systems are developed, and why producers and consumers choose to participate in these systems. These range from environmental sustainability, healthier and quality food, maintaining working landscapes, traceability and label of origin to more abstract concepts associated with spatial and social characteristics.

5. Market Research

Introduction

- 5.1. In the market research we explore the values and potential issues with current red meat food production systems for consumers and trade businesses within the Dunedin and Wanaka area.
- 5.2. A focus on the shopping preferences, red meat consumption and spend are a focus specifically for the consumers, as are personal motivations. The consumers are given a choice of three scenarios regarding how meat is produced. These scenarios, combined with the values and potential issues associated with red meat food production, then begin to paint a picture of what food attributes consumers are willing to support.

- 5.3. Interviews with food wholesalers and retailers give a clearer picture of what purchasing choices trade managers make and why. Furthermore, the findings illustrate the perceived pros and cons of buying locally farmed red meat.
- 5.4. Relevant external research has been incorporated within the discussion of results, providing a comparison between the local market research results and the international context.

Research Method - Interviews

- 5.5. Qualitative research involves in-depth face-to-face interviews or group discussions to help identify key themes and to understand the diversity of views in a specific group or on a specific topic. Diversity at the recruitment stage is the key to success with qualitative research.
- 5.6. A range of techniques is used in this type of research including direct questioning, use of card sorts and visual stimuli in order to draw out meanings and understandings of topics.
- 5.7. 28 in-depth interviews were conducted with a selection of the following people:
- Group A: Regular attendees at farmers' markets in Dunedin and Wanaka [who eat or buy meat] – who may have a range of views of the environment and society but are nevertheless already conscious of their shopping activities;
 - Group B: Regular shoppers at supermarkets who do not typically go to farmers' markets - who will also have a range of views of the environment and society but are not as actively conscious in their shopping activities (e.g. only shopping in supermarkets);
 - Group C: A selection of local restaurant owners, catering suppliers and meat retailers in Dunedin and Wanaka.
- 5.8. The sampling of participants in this study is as follows:
- Ranged in age from 25-75;
 - Households ranged from 1-6 people;
 - Wide range of domestic situations incl. young families, families with teens, working & stay-at-home mothers, workers flatting together, a retired couple, single living alone;
 - Trade incl. butchers, supermarkets, gourmet supermarket, restaurants, and cafes;
 - Dunedin and Wanaka-based.

Research Method - Questionnaires

- 5.9. An online survey to understand the attitudes and beliefs that shape the preferences of both consumers and food industry service providers was used to survey participants. It follows a two-step process, which was:
- An initial intercept recruitment at locations where potential consumers would be found [e.g. farmers' markets, shopping malls or supermarket car parks]. This would involve explaining the study and providing a card containing details needed to access an online survey.
 - An online survey, run by Windshift, which compared the responses of shoppers from each location in terms of consumption, perceptions of local food, key purchase considerations

and preferred methods of purchase. The survey was set up so that only one response per household could be accepted.

- 5.10. The survey sample is a total of 446 participants. Participants for the survey were sourced via intercept (49%) and networks (51%).

Results from the Consumers

- 5.11. Results of the 28 interviews revealed a significant difference between the consumption patterns of those who only shop in a supermarket compared to those who specifically purchase meat at a farmers' market or known organic store that supplies free-range meat. In this study, the former are referred to as Conscious Consumers and the latter as Typical Consumers. It is important to note that some of those categorised as Conscious Consumers also indicate they also sometimes purchase meat at a supermarket.
- 5.12. These distinctions are also reflected in the responses from the survey participants. Of the 466 participants surveyed, 85% of respondents purchase at a supermarket, 33% in a farmers' market, 22% in a butcher's shop, 8% direct from the farmer, 7% from a speciality store and 2% online.

Definitions of the Word LOCAL:

- 5.13. 'Local' is not necessarily defined as being physically proximate at all, for example, some of the Conscious Consumers (from Wanaka and Dunedin) indicate that the meat all comes from within the South Island, but not necessarily on their doorstep. The meaning of the word can be based on marketing arrangements, such as farmers selling direct to consumers. In this way, there is a "direct link between producer and consumer".
- 5.14. Some of the motivations for purchasing 'local' focus on environmental issues, and include concepts such as 'lower food miles'. For example, "being able to buy local food as it cancels out food miles". Further suggestions are to "eat to the conditions and the surroundings, (which) helps the planet" or purchasing "environmentally friendly (because I) don't like packaging". Whilst some of the motivations for purchasing 'local' focus on social responsibility and include support for local producers, "growing food is a business and I like to support local business", and support for local economy by "putting money into the local economy".

On Farm Preferences:

- 5.15. Three scenarios were given to participants and they were asked specific questions about their preferences. The following are the scenarios:
- 5.16. Scenario 1: Natural Local Farming – The animals are naturally farmed. They are part of a holistic natural grazing system designed to keep them and the grasses they eat in good health, with no synthetic fertilisers or agrichemicals. No veterinary chemicals are routinely given to them. Customers deal with the farmers directly and may visit the farm on request to see how the animals are raised. Animals are humanely killed on farm by a registered butcher in a portable abattoir and sold direct to consumers in the same area.

- 5.17. Scenario 2: Conventional Farming – The animals are farmed intensively on land, using synthetic fertilisers to keep it at maximum productivity. They may receive veterinary chemicals or food supplements to ensure they grow at an optimum rate. They are trucked to a freezing works within 100 km of the farm, humanely killed and sold to NZ supermarkets or to export markets.
- 5.18. Scenario 3: Organically Certified Farming – The animals are raised in a certified organic farming system, which keeps them largely disease free. They are certified organic by a recognised body. Strict standards are in place as to when and how veterinary drugs may be used and no animal by-products of any sort are incorporated in organic feed at any time. The animals are killed in a humane manner and sold as certified organic meat in a range of outlets.
- 5.19. When asked which of the three scenarios would be most likely to provide red meat with the qualities that matter most 59% of respondents chose Natural Local Farming, whilst 16% opted for Conventional Farming, and 13% preferred Organically Certified Farming, (11% couldn't decide and 1% said none of these choices).
- 5.20. When asked which scenario would produce the nicest meat, 56% of respondents selected Natural Local Farming, 26% picked Organically Certified Farming, 12% couldn't decide, and 5% indicate Conventional Farming.
- 5.21. When asked which of the three scenarios was preferable, if red meat was readily available from all three 64% of respondents choose Natural Local Farming, 24% preferred Organically Certified Farming, 7% selected Conventional Farming, and 4% couldn't decide.
- 5.22. Natural Local Farming was the highest rated scenario within all three questions.

Shopping Preferences:

- 5.23. When asked to indicate considerations when shopping for red meat, 'price or value for money' (65%), 'food quality or freshness' (61%) and convenience (51%) were significantly higher than other determining factors. Following were 'honest and trusted supplier' (36%), 'familiarity – always goes there' (35%), 'able to buy direct from the producer' (23%) and 'personal philosophy or values' (18%).
- 5.24. The findings also show that 'price' and 'convenience' are significantly more important for those who prefer Conventionally Farmed meat while quality is more important for those who prefer Organically Certified Farming. Similarly, within the interviews, Typical Consumer indicated convenience and price as being important. For instance, one consumer asserted that purchasing has to be "convenient, as (I've) got to get (the shopping) done, therefore (it is) easy and quick so you buy things that are familiar to you and in familiar places in the shop", whilst another stated they are "trying to fit within a budget".
- 5.25. In contrast, those who prefer Natural Local Farming and Organically Certified Farming meat look for an 'honest and trusted supplier' (36%), which correlates with the Conscious Consumers who prioritise 'animal welfare'. The attribute of animal welfare is not only because it is "free range, for animal welfare" but also because "free range because it is better product". Other attributes include "for my own health", "transparent operations", a desire for meat from a local source in

order to “support my own backyard”, organic, so they “know there’s no chemicals” and freshness, because they want the “freshest as that tastes better”.

- 5.26. Overall, results of the survey show that respondents who prefer Natural Local Farming and Organically Certified Farming are more likely to shop for meat at supermarkets, butchers shops and farmers’ markets. Whilst results of the interviews show that Conscious Consumers are more likely to shop for meat at farmers’ markets which is then supplemented by shopping from supermarkets and butchers shops, which is significantly different to Typical Consumers, who tend to purchase meat mainly from the supermarket.

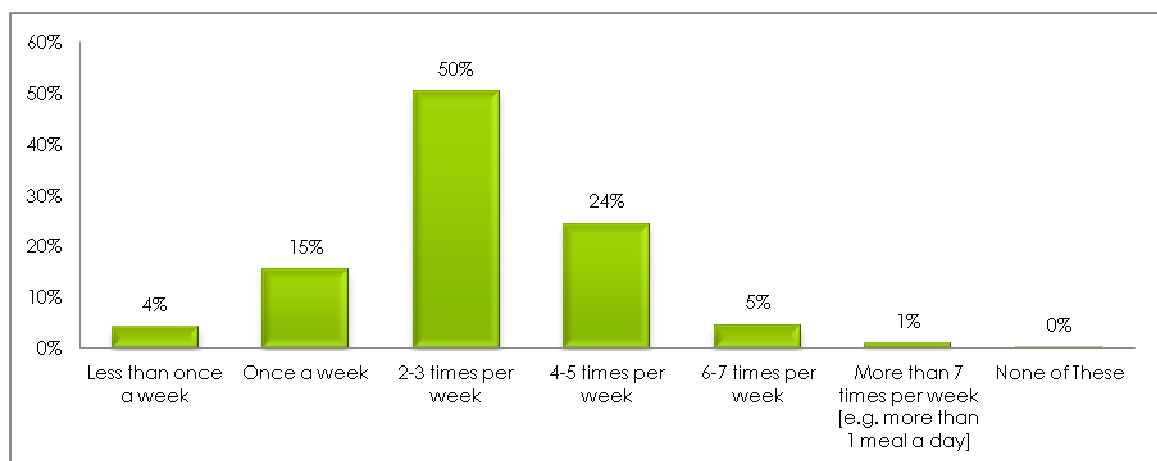
Online Shopping Preferences:

- 5.27. When asked if they had ever ordered fresh meat, fish/seafood, vegetables or fruit online and had it delivered to their home (excluding take-aways) 90% of respondents indicate they had not.
- 5.28. However, 11% of respondents had purchased meat and/or vegetables online. “Ordering online and having it delivered has a huge impact on my desire to purchase from [a local organic meat supplier]”. Moreover, those who indicated a preference for Natural Local Farming and Organically Certified Farming are significantly more likely to have shopped online for food.

Red Meat Consumption:

- 5.29. When asked about their household red meat consumption per week, 50% of respondents suggested consumption is 2-3 times a week, 24% 4-5 times a week, 15% once a week, 5% 6-7 times a week and 4% less than once a week. The graph in Figure 1 shows these findings.

- 5.30. Figure 1: Household red meat consumption per week

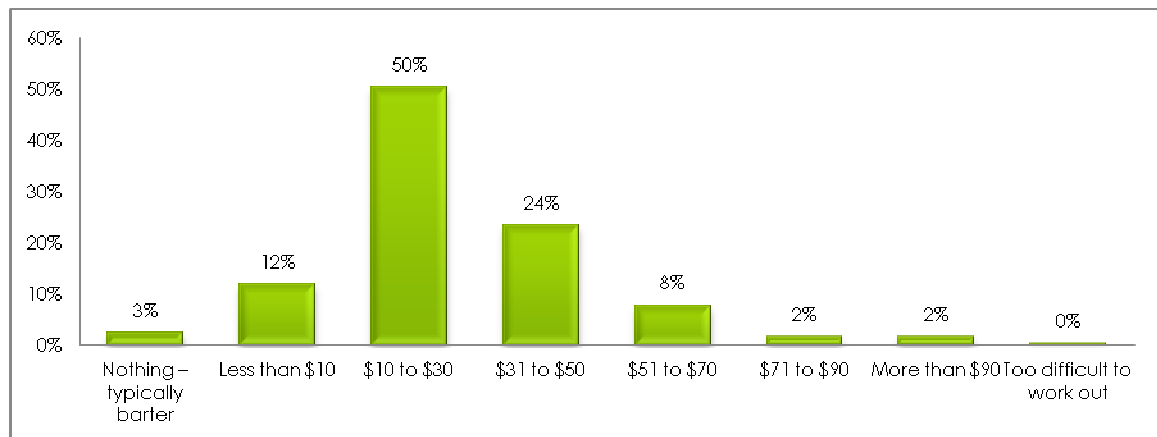


- 5.31. The survey showed both respondents who prefer Natural Local Farming and Organically Certified Farming have a somewhat lower consumption of red meat than those who indicate a preference to Conventionally Farming.

Red Meat Spend:

5.32. When asked about their household weekly spend on red meat, the most common household spend on red meat was between \$10-\$30 (50%). 24% between \$31-\$51, 12% less than \$10 and 8% between \$51-\$70. 3% suggest they spend nothing, typically because of bartering, and 4% indicate a weekly spend of more than \$71. The graph in Figure 2 shows these findings.

5.33. Figure 2: Household weekly red meat spend



5.34. The survey indicated that those preferring Organically Certified Farming spend more than other groups. Those preferring Natural Local Farming spend the average amount.

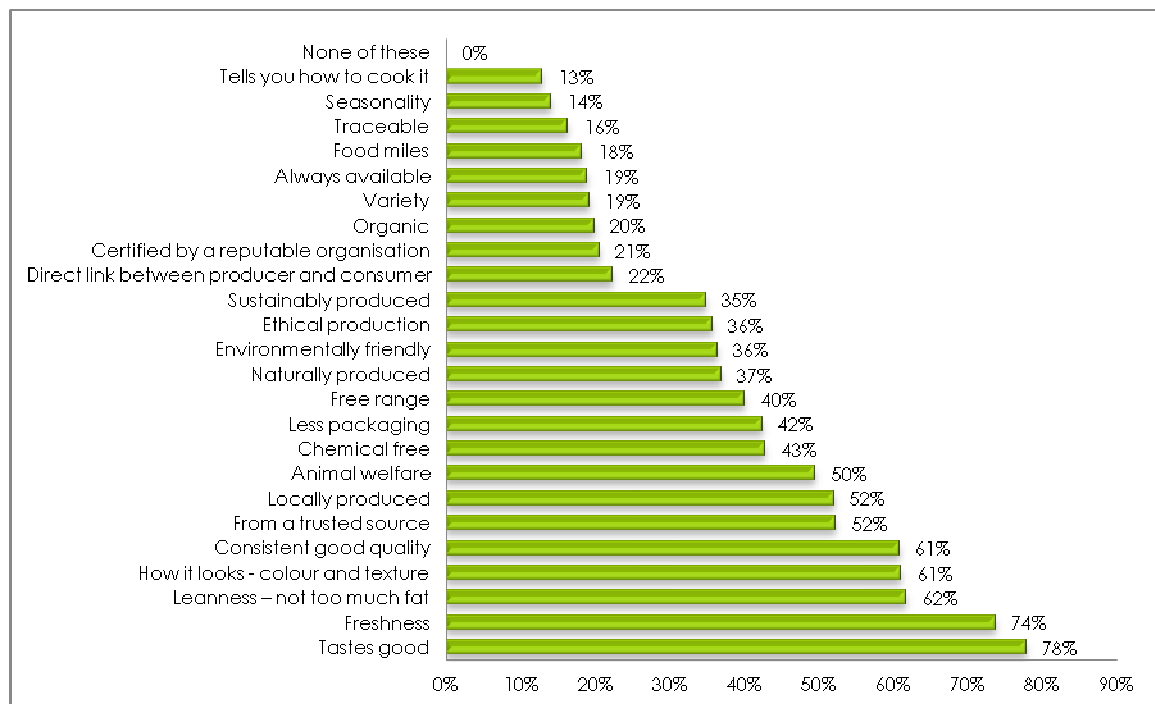
5.35. In contrast, findings from the interviews indicate that the highest spend was from the Typical Consumers, who also had the widest variation, for example from \$8 per meal: “eats meat once a week...\$8 per week” to over \$25.00 per meal: “eats red meat 3-4 times a week... typical spend would be \$100 (ish)”.

5.36. It is important to note that the size of people’s families are not clear within the interview data, so the amount the Typical Consumer spends in the supermarket could be inflated because of greater size of families.

Consumer Values When Purchasing Red Meat:

5.37. The survey revealed that the top five consumer values when purchasing red meat were ‘taste’ (78%) “If I try it and it tastes good then I’ll buy it again” and ‘freshness’ (74%) “I can’t bear anything that’s not fresh” were most important to consumers. This was followed by ‘leanness’ (62%), ‘colour and texture’ (61%) and ‘consistently good quality’ (61%) “I look at it to check it’s not too sinewy and that there are no fatty edges”. These results focus mainly on the quality of the product and are consistent with the findings from the Typical Consumers. The graph in Figure 3 shows these findings.

5.38. Figure 3: Consumer Values When Purchasing Red Meat – All Responses

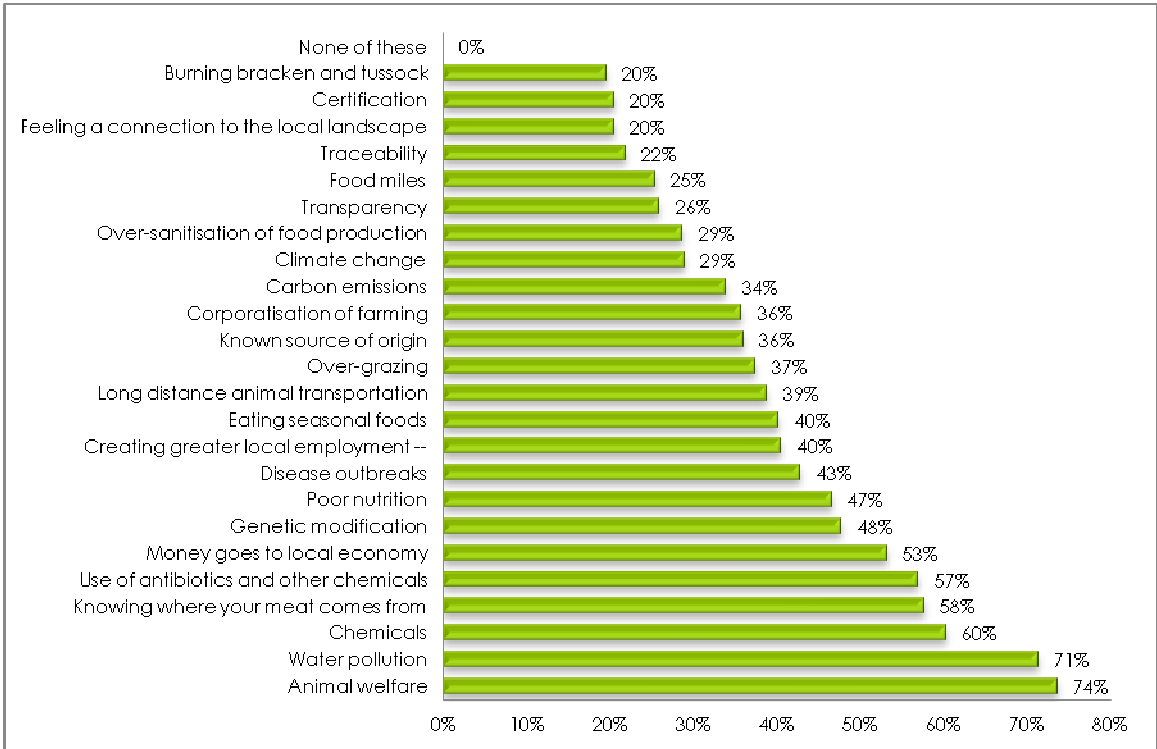


- 5.39. The consideration of ‘animal welfare’ (50%) is a value that is consistent between both Typical Consumer and Conscious Consumer, but importantly it is a higher priority for the latter, as is ‘being from a trusted source’ (52%), and being ‘locally produced’ (52%).
- 5.40. In the interviews the findings indicate a significant difference between the values of the Conscious Consumers compared to the Typical Consumer (described above). The priorities for the Conscious Consumers revealed a primary concern as being animal welfare. They described wanting “animals looked after well”, but also wanting “free range because it is better product”. A second high priority was health, where consumers were purchasing “for my own health”, where they want meat that is “pure and natural as it could possibly be”, and “lean, flavoursome and a good source of iron”.
- 5.41. Other priorities when purchasing red meat were ‘transparency/trust’, “transparent operations”, “know it’s been certified because you trust your source”, ‘price’, “Hazel Hurst Hoggarts is export quality at a reasonable price”, ‘flavour’, “tastes good as you know what practices have happened based on where it’s from”, ‘quality’, “assume it’s good quality because I’m buying from ‘reliable source’ (so I) expect good quality meat” and also “freshness as that’s where the value comes in, (which is) reflected by shopping at the farmers’ market”. Moreover the study shows that Conscious Consumers also want meat ‘without chemicals’ and/or ‘organic’, “know there’s no chemicals” and also ‘from a local source’, “putting money into the local economy” and also because they “like to look after local people, feed their pocket”.
- 5.42. Findings also indicate that those who preferred Natural Local Farming are more likely to focus on taste than those who prefer Organically Certified Farming and less likely to want leanness than those wanting conventionally produced meat. Those who indicate a preference for either Natural Local or Organically Certified Farming dominate the more environmentally focused

elements, but those preferring organic are more concerned about the source. Those preferring Conventional meat are more likely to choose ‘consistent good quality’ as their most important value.

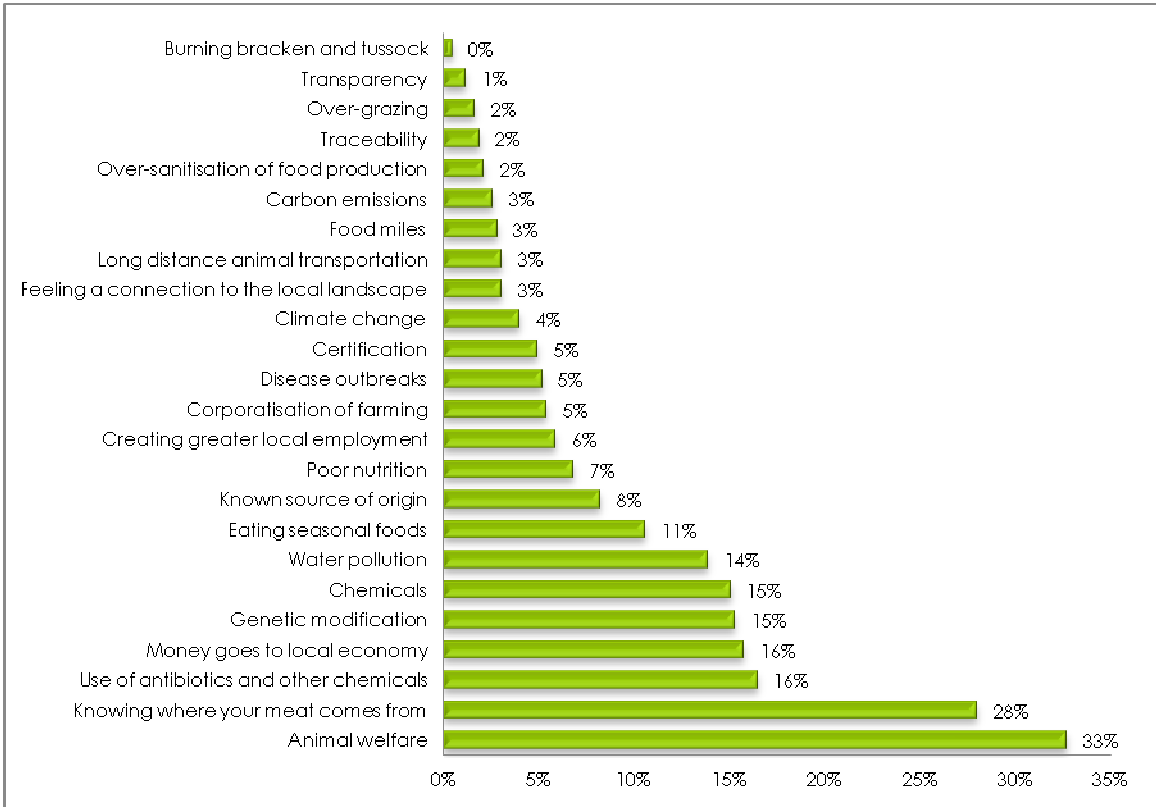
Potential Issues with Food Production:

- 5.43. When asked to indicate all of the potential issues that participants had with the way our food is produced 74% of respondents indicated ‘animal welfare’ and 71% ‘water pollution’. These two potential issues represented the most highly rated issues for respondents overall despite their farming preferences. The graph in Figure 4 shows these findings.
- 5.44. Figure 4: Here is a list of potential issues to do with the way the food we eat is produced. Which, if any, of these matter to you personally? Please tick all that apply



- 5.45. However, when respondents were asked to limit the food production issues of concern to just three issues, ‘animal welfare’ retained its highest priority ranking at 33%, while ‘water pollution’ dropped to being 7th at 14%. The graph in Figure 5 shows these findings.

5.46. Figure 5: And overall, which, if any, of the food production issues you chose have the greatest effect on your food shopping preferences? Please tick up to 3 issues



5.47. Most respondents were happy with the current regulation of animal welfare in New Zealand, and would trust existing regulation and verification systems to govern this. 39% of respondents did view long-distance transportation of animals as being an issue of concern to them, but only 3% of respondents then prioritised that issue when assessed against other potential issues.

5.48. 58% of respondents identified that it was important for them to know where their meat came from, and the significance of this was reinforced when it was identified as being the second most important issue which would affect their food purchasing decision (28%). Reinforcing this message is the fact that an additional 8% of respondents prioritised 'knowing source of origin' as being important.

5.49. Three other high priority issues that were considered by respondents as being of significance can be considered together as a cluster of issues, defined as 'inputs'. Respondents highlighted concerns with the use of chemicals (60%), antibiotics (57%) and genetic modification (48%). When respondents were asked to prioritise their three most significant environmental issues, each of these issues each rated within the top six food production issues listed.

Most Important Issue by Source Preference:

5.50. Participants were asked to rank the potential issues with food production and then these were organised into the three groups of preferences, for Natural Local, Organically Certified, or Conventional Farming. Table 1 shows the results:

5.51. Table 1: Most Important Issue by Source Preference

	Natural Local [64%]	Organic [24%]	Conventional [7%]
Animal welfare	32%	38%	14%
Knowing the source	28%	31%	24%
Chemicals	13%	20%	14%
GM	14%	18%	10%
Antibiotics	15%	22%	10%
Local Economy	19%	11%	10%

5.52. Table 1 illustrates how ‘animal welfare’ and ‘knowing the source’ are significantly higher for those who prefer Natural Local Farming, and Organically Certified Farming. However, ‘knowing the source’ is the highest issue ranked by those who prefer Conventional Farming.

Personal Motivations for Buying Local:

5.53. The interviewees who shopped at the Farmers’ Market (Conscious Consumers) were asked what their personal motivations were for buying local meat. The responses include being conscious about what they eat and where it is from. For example, “eat to the conditions and the surroundings, helps planet and local people”.

5.54. Purchasing local meat is also seen as healthier and safer, “chemical free/no additives because food additives are making people weak and killing us slowly over time”. It is also perceived as trustworthy because of the connection to the farmer, for instance, “transparent operations - as then you know it is locally owned, free range, animal welfare and can meet the farmer”

On Farm Preferences Combined with their Values and Potential Issues with Food Production:

5.55. The results of the survey show that consistently over half of the respondents indicated a preference for the Natural Local Farming. When comparing the results of these scenarios to the results from questions specifically on ‘Values for purchasing meat’ and the ‘Potential issues to do with food production’ we can begin to understand what issues and values are important.

5.56. For example, in **Scenario 1: Natural Local Farming**, the first description is *the animals being naturally farmed*. Results show that 37% of respondents indicated ‘naturally produced’ meat as an important value; it also includes 48% who selected ‘genetic modification’ is a potential issue.

5.57. A second description of the scenario includes *the animals being part of a holistic natural grazing system designed to keep them and the grasses they eat in good health*. Results show that 50% of respondents in the survey indicated ‘animal welfare’ as an important value; also potential issues

included 'long distance animal transportation' (39%), 'poor nutrition' for the animals (47%), and again, 'animal welfare' (74%) [Note: the difference in percentage is due to responses to different questions: 50% is the response to the questions on important values when buying red meat whilst 74% to potential issues to do with food production.] Furthermore, the value of 'environmentally friendly' fits within this description and 36% of respondents indicate it is an important value when purchasing red meat. Further exploration through the potential issues question, indicates 71% of respondents are concerned about 'water pollution', 37% about 'over-grazing' and 20% about 'burning bracken and tussock'.

- 5.58. A third description of the scenario indicates *no synthetic fertilisers or agrichemicals. No veterinary chemicals are routinely given to them.* Results of the survey show that 43% of respondents suggested that 'chemical free' is an important value to them when purchasing red meat, whilst 60% indicated 'chemicals' as being a potential issue and 57% chose the 'use of antibiotics and other chemicals'. It is important to note that it is unclear in the results what the difference is between these two issues and whether different participants responded to both or one over the other.
- 5.59. The fourth description of the scenario signifies that *customers deal with the farmers directly and may visit the farm on request to see how the animals are raised.* Here 22% of respondents assert that a 'direct link between producer and consumer' is an important value whilst 36% indicated 'known source of origin' yet 58% suggested that 'knowing where your meat comes from' are potential issues.
- 5.60. The last description of the scenario suggests that animals are humanely killed on farm by a registered butcher in a portable abattoir and sold direct to consumers in the same area. Again this related to the 50% of values and 74% of potential issues relating to 'animal welfare', and to the potential issues of 'long distance animal transportation' (39%). Furthermore, 52% of the respondents implied that 'locally produced' is an important value when purchasing red meat, similarly 53% indicated a potential issue as 'money goes to local economy'.
- 5.61. Overall, these results demonstrate that the 59% of respondents who indicated a preference for Natural Local Farming do so potentially primarily due to the issues of 'animal welfare' (74%) and 'water pollution' (71%). Other potential issues with food production are 'chemicals' (60%), (including the 'use of antibiotics and other chemicals' (57%) and 'chemical free' (43%), 'knowing where your meat comes from' (58%), 'money goes to local economy' (53%) and 'locally produced' (52%).
- 5.62. In order to compare these findings to **Scenario 3: Organically Certified Farming**, a similar understanding of the values and potential issues is essential. Here the first description indicates that *the animals are raised in a certified organic farming system, which keeps them largely disease free.* Like the previous scenario animal welfare is a concern for many respondents (50% of values and 74% potential issues). Additionally this description also includes the value of meat being organic (20%).
- 5.63. The second description suggests animals *are certified organic by a recognised body.* In this way 21% of respondents indicate the importance of certification by a reputable organisation. A third

description of this scenario signifies that *strict standards are in place as to when and how veterinary drugs may be used and no animal by-products of any sort are incorporated in organic feed at any time*. Here 43% of respondents indicate the value of chemical free, 36% environmentally friendly and only 20% organic.

5.64. Lastly, *the animals are killed in a humane manner and sold as certified organic meat in a range of outlets*. Like the previous scenario animal welfare is a concern for many respondents (50% of values and 74% potential issues), as well as certified by a reputable organisation (21% of values and 20% potential issues).

5.65. In comparison, significantly fewer respondents indicate a preference for the Organically Certified Farming scenario compared to the Natural Local Farming scenario. There are many similarities between these two farming scenarios, specifically animal welfare, chemical free, and environmentally friendly. The main difference between the two is the consumer value of 'organic' and 'certified by a reputable organisation'.

Results from the Trade Businesses

5.66. Meat Retailers, Restaurants and Cafes owners, and Caterers were interviewed. Their supply chain, rationale and volume of meat purchased are varied. Table 2 shows these differences:

5.67. Table 2: Background Profiles

	Meat Retailers	Restaurants & Cafes	Caterers
Supply Chain	Foodstuff's Warehouse, Silverfern Farms, Cressy Farm in Canterbury, Hellers, local suppliers, Mt River, PPCS/Alliance	Robertson's Wholesale Meats, Silverfern Farms, Kaans, Leckies, Ben Gordon in Cadrona Valley, Primal Beef, Trents, Med Market, Bidvest, Wakanui Blue	New World, Kaans, PPCS/Alliance
Rationale	Central buying group or relationships, consistent quality	Developed good relationships, limited choice of suppliers, trying to do things locally	Gets variety/ quantities in short timeframes, developed over time through trial and error
Volume	Up to several tonnes a week	5kgs/week - 50kgs/week	3 sirloin, 4 hams & 30kgs chicken for a weekend

Supply Chain Considerations:

- 5.68. Supermarkets source most of their red meat from their own online supply chain, “it’s just how it works”, “we are part of the group”. However, if there is a supply issue then they can seek supply outside the group. For instance, “if they get a better price they can buy outside the group but no quality compromise”.
- 5.69. Restaurants primarily source through butchers, food service wholesalers or through a caterer. High-end meat tends to be from branded sources, e.g. Silver Fern, Angus, or Cressy Farm, whilst middle market meat tends to be unbranded.

Important Factors when Purchasing Red Meat:

- 5.70. When asked what was important when purchasing meat every one of the interviewees indicated ‘quality’ as being a high priority. For instance, “Quality means consistency, sizes, aged right. People come looking for the same things, (so) quality is uber important”. Half of the interviewees indicate that ‘consistency’ and ‘reliability’ are also very important considerations. For example, one café owner indicates how they “need it to be consistent and reliable”. Less than half of the interviews indicate that ‘price’ was an important factor. With some indicating “value for money”, others suggesting, “well-priced is important”, or the meat being “competitively priced as (I) need to be in the market”.
- 5.71. Other common important factors when purchasing red meat are “honesty”, “friendly people” and “trust”. For instance, one caterer indicates, “honest is also important as that’s how (I) know what I am being sold, (I) can trust them”. Another high priority is ‘availability’; as some caterers “need to be able to order at the last minute”. This leads into “service”, where a “good relationship”, or “professional and helpful” are high priorities. An example of this would be where a meat retailer indicates the supplier “must have butchery running professionally, clean, food safety, it’s the nature of the industry, makes it a lot easier”.
- 5.72. Other important priorities that were mentioned by at least two interviewees include organic, fresh, and traceability. “Organic, grass and grain fed are both important, NZ pushes grass fed (and) marketed as close to being organic”.
- 5.73. An interesting point that was raised in terms of meat produce is the choice of fresh over frozen. For example, one caterer indicates that she “tries to buy fresh meat but sometimes they can’t supply it so sometimes she has to get it frozen. She is looking for fresh and tender meat”.

Perceptions of Local Sourcing:

- 5.74. Some of the definitions of the word ‘local’ emerged from the interviews with the trade businesses. These included the notion that ‘local’ is physically close by. For some Wanaka trade businesses this means purchasing in Central Otago or in Southland. Others indicated within 200km of Wanaka.
- 5.75. Contrastingly, one of the café owners in Dunedin queried the definition of the word ‘local’ by asking, “What is locally produced – is it if you could walk to the animal from your place? NZ or SI

or Otago as local, NZ as a whole is pretty much free range, not high intensity farming, less chemicals put in so a local brand isn't going to be much different but if you can do all that in certain places as local, that's good."

5.76. When asked about their perceptions of local sourcing of red meat, there were a number of positives indicated:

- Supporters of local sourcing;
- Would like to buy more locally;
- No need for transport so potentially lower prices;
- Word of mouth from selling produce grown locally;
- Paddock to plate;
- Good relationships, trust;
- Regionality to food;
- Money stays locally.

5.77. When asked about their perceptions of local sourcing of red meat, there were a number of negatives indicated:

- No continuous supply, or restricted supply due to seasonality;
- Sometimes can be disorganized;
- Meat has to go away to be processed;
- Unprofessional;
- Pricing is not competitive/overpriced;
- Insufficient quantity.

Developing Local Supply:

5.78. When asked about developing a local supply, a number of various responses emerge. Firstly there are various ways that buyers could connect with suppliers:

- Become a supplier to the group, fill in documents and gain payment approval;
- Arranging face-to-face, visits to the farmer;
- Direct ordering through a computer buying system.

5.79. Some of the interviews indicate that they expect the suppliers to approach them, suggesting that otherwise they would be hard to find. Others assert they would prefer only one point of contact. Also an expectation would be there would be open, honest, and direct dealings. A further suggestion is that local suppliers would need a local abattoir.

Main On-Farm Issues:

5.80. When asked what the main on farm issues were the interviewees indicate that a primary issue is 'animal welfare'. Two predominant reasons emerged; one was in relation to the quality of the meat, "the treatment and livestock management, the animal's wellbeing matters most, the rest flows on from there", because "better colour mean the animal (was) not stressed at slaughter". The second is in relation to the life of the animal, as some of the interviewees indicate they

“want to know that they aren’t mistreated; they are cared for, that the people looking after them have the knowledge to do so”.

- 5.81. Another concern was ‘certification’, because “certification is important as that gives trust” which is closely linked to ‘traceability’ because “traceability is also important, in an ideal world you would know where it comes from and how the business works inside and out”. Furthermore, a linked issue is ‘known source of origin’ where “face-to-face” relationships are important.
- 5.82. Other concerns are in terms of the local environment and include ‘naturally produced’ and ‘chemical free’. The former meaning “there has been the least amount of tampering with nature”. The latter being a “trend away from hormone growth and supplements, more natural, drench resistance so farmers not drenching, just doing it as or when it’s required, the consequence is that it’s chemical free”. Also “concern for local environment, because you need to look after our backyard not kill it, farmers need to take responsibility for that (carbon, water pollution)”.
- 5.83. Concerns relating to society and economy include “money needing to go into the local economy”, specifically so it “does not go out of the country”. Other concerns are around local employment, where “local employment/economy really important as he relies on people supporting him to make it work, knows some people who want to spend as little as possible but thinks they might need to be exposed to other options (education).”
- 5.84. Lastly, concerns associated with the notion of sustainable production are indicated, these can be explained as, “In general, sustainable, enviro-friendly, free range, ethical, naturally produced, animal welfare. Specific to red meat: enviro-friendly, ethically produced, animal welfare”.

Discussion of Market Research Results

- 5.85. The results of the market research emphasised a difference between those who shop in supermarkets versus farmers’ markets, specifically a significant difference between consumer demands for quality. For instance, Typical Consumers suggested that ‘quality’ is taste, freshness, leanness, colour and texture, and also they are more concerned about price and convenience. In contrast, the Conscious Consumers suggested that ‘quality’ is in relation to animal welfare, chemical free and knowing the source of the product. Similarly, trade businesses who all indicated ‘quality’ as being a priority for purchasing also suggested that ‘animal welfare’ is an equally important consideration, not just because of the wellbeing of the animal but because the wellbeing of the animal affects the quality of the meat.
- 5.86. Results of the market research indicate that Conscious Consumers tend to purchase meat at Farmers’ Markets and place high expectations on trust and understanding where their meat comes from. Expectations are that they are confident that animals are kept well and as chemical free as possible, the product is fresh and where they can support their own, local people. In this way, many of the Conscious Consumers fit with the characteristics of those who indicate a preference to Natural Local Farming or to Organically Certified Farming. These attributes are similar to those found in the US study by Martinez, et al., (2010), where the majority of respondents to a national study cited freshness (82%), support for the local economy (75%), and

knowing the source of the product (58%) as reasons for buying local food at direct markets or in conventional grocery stores.

- 5.87. Attributes specific to Conscious Consumers are significantly different to the price and convenience required for Typical Consumers who tend to only shop in supermarkets and prefer Conventional Farming. Similarly, a study in the United Kingdom, completed for the Institute of Grocery Distribution, concluded that consumers' expectations of product characteristics vary with the size and type of retail outlet. Convenience and price are the characteristics expected of supermarkets; quality and trust are more important reasons for consumers using a local butcher, and 'passing trade' and product quality are the main reasons for consumers buying at farmers' markets. Surveys of consumers who completed most of their shopping at supermarkets show low levels of interest in issues of product quality, process and provenance (IGD, 2002).
- 5.88. Therefore, correlations between shopping preference and values become clear. Results show that price or value for money, quality and freshness, and convenience were significantly higher for those who prefer Conventionally Farmed or are classed as Typical Consumers than those who prefer Natural Local Farming or Organically Certified Farming, or are classed as Conscious Consumers. Furthermore, Typical Consumers expressed an interest in animal welfare and environmental issues (water pollution) yet this was not supported in their purchasing decisions. A study for the United Kingdom Food Standards Agency (2001) suggested that while consumers frequently express an interest in supporting products with high environmental credentials, this is not reflected in their purchasing decisions. In terms of their expressed interests, the environment is in less demand than characteristics such as price, convenience and eating quality.
- 5.89. The results indicate that Conscious Consumers choose to purchase local meat for ethically based values including better treatment of animals, safer process for both consumer and the environment, healthier product, supporting the local economy, and the direct link to the farmer. These findings are supported by Toyne, et al., (2004), who discuss how the growth in demand of organically certified products has been driven predominately by consumer health concerns, with other factors such as consumers' understanding of environmental issues coming a distant third or fourth. This reinforces other studies, which show that the number of consumers who make their purchase decision as a result of environmental concerns is small. "The usual pattern for food purchases is healthfulness, price, quality, availability and then environmental attributes" (Toyne, et al., 2004:55).
- 5.90. The trade businesses indicated a set of priorities that are a mixture of both the Conscious Consumers' and the Typical Consumers'. Trade businesses suggest that quality is the predominant concern, followed by consistency and reliability, honesty and trust, and price and value for money. In the United States Agricultural Department report, the authors surveyed both trade businesses and farmers. Trade businesses reported that local foods were valued and purchased for their social and food quality benefits. Social benefits included support for the local economy and perceived environmental benefits. Quality benefits included freshness, taste, and high quality (Lawless, et al., 1999).
- 5.91. In New Zealand, the amount of pollution from diffuse sources, such as urban storm water, animal effluent and fertiliser run-off, has greatly increased in the past 20 years. Most of the

increase can be attributed to the intensification of agricultural land, notably the widespread conversion of low-intensity sheep farms and forestry to dairying (www.mfe.govt.nz). Despite water pollution being associated with dairy, many environmentally conscious New Zealanders are concerned about the general quality of our waterways (www.niwa.co.nz). Therefore, it is not surprising that water pollution is significantly high on the list of potential concerns for Conscious Consumers.

- 5.92. Despite water pollution being high on the list of potential concerns, many other 'environmentally' focused attributes were not, especially when ranked against other potential concerns. These findings are significant as it shows a gap in the research regarding understanding from the consumers' perspective of environmental sustainability. Moreover, a study on consumer demand for local, sustainable foods in Yorkshire, England found that consumers associate local foods with quality characteristics such as freshness and taste and with benefits to the local economy and the environment, but that connections with the environment are the least significant of these (only 9% of interviewed people felt local products were 'better for the environment') (Lyndhurst, 2004).
- 5.93. Similarly, research to understand how local food systems could be revitalised in two rural agro-industrial regions of the United States (Selfa and Qazi, 2004) showed that the attributes were different from those of urban-edge local food systems. The authors' research showed that the extent to which consumers factor in environmental sustainability, supporting local farmers, price, or nutritional value in making purchasing decisions might vary across county, class, ethnicity or income level, but for an overwhelming majority of consumers in urban and rural regions in the State of Washington, taste and freshness are very important attributes in how they make purchasing decisions and in what 'local' food connotes to them. Therefore, it is important to distinguish the difference between different understandings of the meaning of 'local' food. Within our market research we have found a significant difference between meanings of the words 'local' for trade businesses, Typical Consumers and Conscious Consumers and as such a variety of priorities emerge for each.
- 5.94. Results of the study indicate a significant difference between the meanings of the word local. Consumers were less concerned about the physical locality of the meat and more concerned with the connection to the farmer and trust that animals are well looked after and water is not polluted. Contrastingly, the trade businesses indicated that physical locality is the predominant meaning when they refer to local.
- 5.95. In 2008, Marion Burros, a journalist for the New York Times wrote that "one of the biggest brand names in food this summer doesn't carry a trademark. It's the word "local," which has entered the language as a powerful symbol of high quality and goodness". Her research showed that consumers have about five or six reasons for wanting local: freshness and taste; keeping farmland in the community and having open spaces; a desire to be close to the food source and know where it comes from; support of local farmers and keeping money in the community. Embedded in all of these attributes was a concern about food safety (New York Times, August 6, 2008). These attributes described in Burros' research are commonly found within our market research, although we discovered that animal welfare is also high on the list of priorities for many of the respondents.

- 5.96. Paloviita (2010) in seeking to understand consumer's sustainability perceptions of the supply chain of local food found that socio-cultural sustainability was a dominating theme in the focus group discussions and it was perceived to be more important by the focus group participants than economic or environmental sustainability. Socio-cultural sustainability of locally produced food was primarily associated with trust, familiarity, personal contact and nostalgia, such as childhood memories of farms, experience, communication and shopping convenience. This links clearly with our research findings which highlights the importance of 'trust' and 'transparency'. Paloviita's research raises questions regarding the meaning of the term sustainability and how further research is needed to draw out more in-depth meanings.
- 5.97. Overall, there is a significant demand for locally produced red meat that is produced from animals which are well cared for, have been raised on farms that use minimal chemical, and under a economic system in which the money is being returned to the local economy. Trust in the source, and transparency within the supply chain is also critical.

Conclusion

- 5.98. Research demonstrated that there is significant demand for red meat that is branded as being 'local' and 'natural'. The research also clearly demonstrated that both consumer and trade interpretation of what constituted 'local' varied enormously, and in many cases the attributes of 'local' stretched far beyond a literal definition. This reiterates the results of our review of international literature and schemes.
- 5.99. It is clear that for a lot of consumers, it is not enough to just be spatially local. Participants in a local food system must create a system that makes the consumers feel good, and to satisfy consumer demand, local food producers must offer environmental assurance with a local provenance. Freshness, taste and associations with locality – including the local economy – will need to be matched with expected social and environmental benefits. The key production attributes demanded by the Conscious Consumers are:
- Animal welfare – consumers are concerned about the treatment of animals;
 - No water pollution – this was shown to be a significant concern for many consumers;
 - Chemical-free – minimal use of chemicals and inputs are seen as important;
 - Traceability – knowing the source of the product is key;
 - Supporting local economy – is a desire for most.
- 5.100. The key attributes indicated above are not just found within the Conscious Consumers but also within trade businesses who hold similar requirements, with the exception of the water pollution attribute.
- 5.101. From the perspective of the trade industry there is a high degree of enthusiasm for a product that recognises locality and naturalness. However, the trade sector will always prioritise consistency of product quality and continuity of year-round supply, plus efficient systems and strong relationships, as the basics of business.

- 5.102. Typical Consumers are a much harder market to access as produce needs to be value for money, convenient and fresh. Further, there is a requirement for clear labeling and certification of the product.
- 5.103. Evident in the market research is that consumers at farmers' markets typically trusted the supplier of the produce and the perception is that they have access to natural, local, fresh, healthy meat. Furthermore, online purchasing is a potential option that could be worth further exploring as the trend in online purchasing currently sits firmly with the Conscious Consumer group. It is also important to note that those who prefer Organically Certified Farming typically spend the most, but consume the least.

6. Local Food System Principles

Introduction

- 6.1. Identifying principles in relation to a local food system is challenging, with the definition of 'local' being a vague and subjective term. Our research, however, has highlighted the need to address a number of questions when trying to determine principles of local food systems.
- 6.2. There is clearly a growing demand for products of high quality from traceable local supply chains that are able to deliver multiple public benefits. The nature of the benefits that can be delivered will vary according to the needs of that particular community, and it must be built on social relations that are embedded in a particular place. Ultimately each community will define its own principles around local food systems, cognisant of the environmental, social and cultural concerns that are a part of that place.
- 6.3. A local food system that meets community expectations and is rewarded by commercial return is a powerful motive for producers considering engaging in the development of a local food system. A 'place-focussed' approach means any standards must relate to the particular character of a certain landscape, rather than simply delivering universal levels of 'best practice'. Feagan (2007:26) discusses how a label of provenance or 'terroir' can entrain capital "contrary to its increasingly frictionless and placeless tendencies, because a label of origin connects it with a specific place, and opens the possibility that producers, as well as consumers, can be held accountable for their actions in that specific place."
- 6.4. How we determine 'the local' in a local food system is therefore very contingent on the place and the social, environmental, cultural and political circumstances which surround it. No two 'locals' will be the same, because no two communities (or places) are the same.

Principles and Goals for a Local Food System

- 6.5. Mindful that no two local food systems will be driven by the same objectives, we have recommended some guiding principles for the development of local food systems. These principles encourage the consideration of the spatial, social, environmental and quality attributes that will help conceptualise and define a local food system within any one area.
- 6.6. It is important to achieve a balance between being able to verify the management processes and the attributes of the products arising from a local food system whilst ensuring any scheme does not become unduly complex. This will result from the development of a system that recognises the needs of the local consumers and the related producers, and determining what is important to that community.
- 6.7. We recommend one tier of principles operates at the group / scheme level, alongside a set of goals, at the individual producer level. Group level principles are the 'high level' socio-cultural-environmental principles that are considered necessary to meet the demanded attributes of a local food system, at the community or district level. These principles, or variations thereof, should be agreed to by all producers who participate in a local food system. In the absence of 'a group' of participants, these principles still retain their validity for individual producers who are engaged in direct local food system enterprises.
- 6.8. The second tier is focussed on achieving environmental goals at the property level, recognising that environmental gains need to occur at the farm management level. This second tier of goals is more likely to change between local food systems, as they are directly linked to a smaller-scale site. That is, the environmental principles need to be tailored to deliberately emphasise the uniqueness of a known farm, or to a small-scale landscape.

Group / Scheme Level Principles

- 6.9. As identified in sections (4) and (5), a variety of environmental and socio-cultural attributes drive the demand for a local food system. It is these attributes upon which a local food system can be endorsed and marketed. Guided by our own research, and reinforced by the international literature, the following guiding principles have been developed to assist local food system advocates who are considering the development of a system.
- 6.10. Group Principles

Attribute	Principle
Locality – Proximate	The Local Food System (LFS) should provide consumers with foods produced and processed as close to home as possible (proximate).
Locality – Provenance	The LFS supports community identities through food labelling that recognises 'place' and associated environmental and socio-cultural attributes (provenance).
Trust	The LFS encourages consumers to know where, how and by whom their food is produced.

Transparency	The LFS provides the mechanisms for supply chain traceability.
Local Economy	The LFS is characterised by many locally owned and operated food supply and farming businesses that provide local employment.
Animal Welfare	Producers and others involved in the management of the LFS supply chain implement high standards of animal welfare in both farm production activities and in the transportation and handling of livestock off-farm.
Environment / Health	Producers in a LFS minimise the use of artificial inputs and chemicals within their farming system.
Environment	Producers in a LFS conduct farming activities so that water and soil resources and biodiversity are enhanced.

Farm-Level Goals

- 6.11. In a local food system in which multiple producers supply into a common market that is branded by virtue of its locality, consideration should be given to a system of endorsement based on the needs of each property. In the case of livestock farming, this would enable an overall locality brand to be developed in which all livestock / products assured under the brand would be delivering roughly equivalent, but specifically tailored, contributions towards the overall environmental and social capital of the locality that is forming the basis of their marketing.
- 6.12. Any farm-level management system should be outcome-focused, rather than prescribing the inputs to the farming system, and therefore be more flexible to the needs of each specific property.
- 6.13. The use of existing prescriptive standards of environmental management and animal welfare may be appropriate to establish a baseline of minimum performance for farm management, but would be unlikely to provide the flexibility and nuance required to meet the enhanced landscape or objectives on the various sites.

7. Key Issues for the Development of Local Food Systems

Introduction

- 7.1. Local food system supply chains are not usually the result of some kind of standalone and external “free market” that is separate from the large-scale industrial food supply chains. More typically they will result from the construction of networks of various participants in the food supply chain, such as farmers, food processors, wholesalers, retailers and consumers. To achieve any scale, local food systems will need to be integrated into larger mainstream systems, supplementing and utilising the mainstream supply chain wherever necessary.
- 7.2. Informed by the market research completed for this project, this section of the report discusses some of the issues that need consideration when developing a red meat local food system. Mindful of the local context, and seen through the eyes of prospective developers of a local food system, the issues which are pertinent to the development of a local food system are:
- Establishing trust in the local food system;
 - Providing year-round consistent supply;
 - Shortening the red meat processing supply chain;
 - Completing the supply chain – making local food accessible.

Establishing Trust in a Local Food System

- 7.3. One of the key messages arising from the market research was that ‘trust’ is an implicit requirement of a successful local food system. Establishing a trustful relationship between producers and consumers can occur in a number of ways but is essentially an output of a transparent supply chain. Providing transparency in the supply chain can occur through either product certification, or through face-to-face transactions between producers and consumers.
- 7.4. Allowing consumption choices to be made in broader spheres of sociocultural and environmental traits that speak of the production processes, ethics and personalities behind a product will serve to encourage more meaningful purchasing decisions that send positive signals to producers, rewarding producers for practices that are valued by consumers. If appropriate price signals are received by producers to indicate that environmentally and socially friendly means of production are more likely to be profitable then this will increase the likelihood that farming and land use systems will be altered to meet those requirements (Saunders, et al., 2004).

Transparency:

- 7.5. A transparent supply chain will provide the free flow of information throughout the chain—from the farm gate to the end consumer, and then back to the farmer. This feedback loop provides consumers with sufficient information to enable buying decisions to be based on a product’s attributes and origin, and in turn provides producers with essential information regarding consumer preferences and willingness to meet a particular price point (Saunders, et al., 2004).

This knowledge of supply and demand allows farmers to make informed production decisions and better meet market needs.

- 7.6. Therefore, one of the most important features of a local food system is that products reach the consumer embedded with information, through mechanisms such as labelling or personal communication (Feagan, 2007). Understanding how to make this information accessible is an important component of the design and implementation of a local food system.
- 7.7. This project's market research clearly highlights locality (proximity) and support for local economy as being important attributes for many consumers. As such, a local food system should, at a minimum, provide consumers with sufficient information to enable them to know where, how and by whom their food is produced. Research shows that the attention of the consumers who are part of a local food system will typically shift away from price, packaging and appearance and towards obtaining food products that can be traced to particular people and places (Ilbery and Kneafsey, 1998). Other consumers will demand far more extensive product attribute information than simply origin, extending their demands to demonstration of environmental and sociocultural performance.

Face-to-Face Transactions:

- 7.8. Direct exchange, or face-to-face transactions is one way that participants in local food systems can meet the requirements for trust. Communicating information about the farm to the end consumer through direct marketing (eg. farmers' markets, and direct producer-to-consumer marketing) allows consumers to choose products with an explicit origin and with desirable production practices.
- 7.9. Paloviita, et al., (2010) completed research into consumer's perceptions of the sustainability of local food supply chains and found that respondents expressed a desire to have more direct contact with producers, primarily because local producers were considered as being fair and socially oriented people. When consumers were asked to describe their relationship with food production and producers, a strong, socio-cultural orientation was identified.
- 7.10. In addition, under a direct exchange model, producers are able to answer consumer questions pertaining to their product, which in turn enhances the product knowledge and increases the perceived value of food among consumers.
- 7.11. These findings are in accordance with the results of the study by Jokinen, et al., (2008) in which producer perceptions of locally produced food were studied. It was found that the perceptions of local food production were based on personal experiences and images. Local production was associated with many different local actors, such as rural relatives working as farmers, farming neighbours, as well as farms in nearby municipalities. The study concluded that familiarity with producers, including established, trustworthy, personal relationships might indicate a sustainability advantage in the supply chain of locally produced food.
- 7.12. Purchase transactions that are completed directly between consumers and producers, particularly if they are conducted face-to-face, will remove significant consumer demand for third-party verification. The trust that is obtained from independently verified certification

schemes can also be obtained by developing personal relationships with the producers from which they purchase food products. But as the act of consumption becomes further removed from the source of production consumers are likely to become more reliant on a third-party for the verification of the attributes of a product.

- 7.13. Though not stepped in the structured framework and scientific process that surround formal certification schemes, a policy of allowing consumer self-verification of farming practices and processes is an authentic method of allowing producers to explain the advantages of their production methods. Consumers place their trust in the personality and ethics of the producer, and are reliant on their own judgement of the operations before them. Depending on the attributes that are of the highest value to the individual consumer, this form of verification can be entirely suitable and meet the requirements of the consumer.

Labelling:

- 7.14. Labelling can assist the developing and marketing of local food systems by drawing consumers' attention to the range of public benefits the system provides. However, any labelling needs to carefully consider the claims made so as to not infringe laws, or aggrieve non-participating farmers.
- 7.15. In general it is considered difficult for public authorities to define the criteria for locally produced food, due to the large variance of opinions as to what attributes are embedded in the term 'local'. Official labels for 'locally produced food' are therefore perhaps not a necessity, and instead it is best left to those in a local food system to determine the definition.
- 7.16. The use of the term 'local' is not defined in the Australia New Zealand Food Standards Code. Although 'country of origin' labelling is not mandatory in New Zealand, it is common to find the use of the phrase 'made from local and imported ingredients' on packaged foodstuffs in New Zealand, in which case 'local' may refer to New Zealand as a country.
- 7.17. Section 10 of the Food Act provides penalties for false and misleading labelling of food. This provision focuses on labelling issues that relate to public health and safety. The Commerce Commission, through the Fair Trading Act, enforces legislation that prohibits misleading and deceptive conduct by traders, including dealing with misleading labelling that is not about food safety (www.foodsafety.govt.nz).
- 7.18. Labels exist as a vehicle for describing the attributes that a certain product possesses, and in doing so aim to introduce an element of familiarity and trust into the consumer's purchasing decision. As described by Saunders, et al., the purchase of conventional food is typically a low involvement process that is performed as a result of convenience-driven habits. For example, "Consumers will tend to process information through a peripheral route rather than a central route. As such, familiar cues, such as a brand or a label, serve as a purchase trigger rather than more in-depth communication messages" (2004:52).
- 7.19. In the context of local food systems, 'fixing products to place' through locality-focussed labelling helps the marketability of a product. One of the frequently stated benefits of environmental labels is that they provide a means of providing balanced and impartial information between

consumers and producer (Moon, et al., 2002). However the provision of excessive information can also contribute to market failure, particularly if consumers are overloaded with information and their attention becomes a scarce resource (Saunders, et al., 2004). It has been recognised that contradictory and often overwhelming information about the implications of buying one product over another will often leave consumers confused and unable to act on their concerns at the point of purchase (PWC, 2008:6).

- 7.20. Research suggests that to be successful, it is important that messages about a product's attributes are kept simple. A United Kingdom study that explored the prospects of environmental attributes indicates, "the more tangible the environmental aspect, the more chance that there will be interest created amongst consumers. This includes things like wildlife and animal welfare" (English Nature, 2008).

Certification:

- 7.21. Certification exists to give credibility to an environmental label, and can be an important component of the label's success. Credible, adequate and ongoing methods of explaining the meaning and merit of environmental labels are essential elements in their success, providing consumers with confidence of their merit and authenticity.
- 7.22. The market research proposed that establishing 'trust' is a fundamental requirement for a successful local food system. The qualitative research showed that 'certification' was considered a viable method for gaining trust similar to "face-to-face" relationships. Whether face-to-face relationships or certification is the most appropriate method to establish trust is likely to be dependent on:
- The number of participants and the scale of the system. The larger the size and diversity of the food system, the greater the requirement for certification.
 - The geographical proximity between the producers and consumers. The greater the physical distance, the less likelihood of direct interaction and the greater the likely demand for certification.
 - The consumer's demand for knowledge of farm practice and the level of technical detail required. For consumers who have a stronger requirement to understand the technical production processes that underpin a farming system, a more formalised accreditation system will often be required.
- 7.23. For any certification or accreditation scheme to be successful there needs to be widespread producer interest and support for participation. Without broad producer uptake, the market cannot be supplied. As such, production standards need to be set at an appropriate level to encourage participation, whilst ensuring the integrity of the system remains and consumer confidence is maintained.
- 7.24. The extent of producer participation in labelling and certification schemes will be dependent on the standards and criteria required under the scheme. The level of market demand for the scheme, and the costs associated with meeting the necessary standards and criteria, will be a key consideration in attracting prospective producers. Participation costs could include labelling

and/or certification fees, costs of managing the system and the ongoing costs of management and record management (Millar, 2009).

- 7.25. When environmental or sustainability claims are made directly by the producer or another party likely to benefit from the claim, without that claim being verified by an independent third party, there exists a much higher prospect of producers providing false or misleading information to the purchasing consumers. This can have repercussions for environmental certification systems as a whole, as consumer support and trust for such systems is tarnished through negative experiences. This can lead to a reduction in the willingness of consumers to support supposed environmental or social benefits (FERN, 2008).
- 7.26. Therefore, successful and trusted environmental labels are underpinned by environmental and social standards that are auditable and can clearly describe the extent of claims that can be made and also the level of public assurance that can be provided. Of significance is the nature of the audit, whether it has been conducted internally or externally, and the nature and identity of the authority undertaking the audit and making the labelling claims.
- 7.27. Maintaining a realistic cost structure is important when considering the development of farm-level certification schemes. There is a risk that a local food system which demands certification will add unviable costs to the system, thereby detracting participants. Managing a certification scheme can be costly, but if sufficient economies of size are achieved, the unit cost will typically fall to a level that is feasible.
- 7.28. Overseas experience shows that involving a statutory manager and voluntary environmental bodies provides added credibility. In this respect, the public endorsement by these bodies is likely to provide a greater level of environmental assurance to consumers than a set of prescriptive standards (Land Use Consultants, 2005).

Establishing Trust – Conclusions and Recommendations:

- 7.29. A critical component of a successful local food system is establishing trust between the various actors in the system. At its narrowest this will be producers and consumers, but in the fuller context will include all participants in the network.
- 7.30. Transparency of the supply chain will provide the basis for trusting relationships within a local food system. This transparency is best achieved through either direct exchange relationships, or through labelling and certification schemes that are verified by an independent third party.
- 7.31. Whatever method is chosen to provide transparency of the supply chain, and thereby to assist in the establishment of trust between the various actors involved in the local food system will be dependent on the scale of the system and the number of people involved. It will also depend on what attributes of the local food system need verification, and the best method for providing this verification.
- 7.32. How best to provide this transparency and trust in a local food system can only be answered by each community as they set about understanding what a local food system means to them and how they want that local food system to look.

Providing Year-Round Consistent Supply

- 7.33. Both the market research completed for this project, and the review of international research, demonstrates that providing a consistent supply of red meat, year round, is an essential component of a well functioning local food system.
- 7.34. The market research asked consumers what their most important considerations were when shopping for red meat. 'Price or value for money', 'food quality or freshness' and 'convenience' were significantly higher than other determining factors. Following were 'honest and trusted supplier', 'familiarity – always goes there', 'able to buy direct from the producer' and 'personal philosophy or values'.
- 7.35. It is important to note that the findings show that 'price' and 'convenience' are significantly more important for the Typical Consumer than they are for the Conscious Consumer. Overall, results of the survey show that respondents who prefer Natural Local Farming and Organically Certified Farming are more likely to shop for meat at supermarkets, butchers shops and farmers' markets. Whilst results of the interviews show that Conscious Consumers are more likely to shop for meat at farmers' markets which is then supplemented by shopping from supermarkets and butchers shops, this is significantly different to Typical Consumers, who tend to purchase meat mainly from the supermarket.
- 7.36. If an objective is to grow the local food system to a scale that enables it to act as an alternative to the existing mainstream supply chain, then there is a need to develop systems and processes that will provide a consistent supply. Typically farmers would prefer to arrange supply in parallel with their 'grass growth curve'. Spreading the supply season beyond its natural bounds adds both cost and risk to the farmer, and in a conventional farming system at least, would result in a loss of production (KPMG, 2011).
- 7.37. Finishing livestock year-round is a risky and unviable option for most farm management systems in the dry hill country of Otago. Short grass-growing seasons and a strongly seasonal climate mean that livestock are normally produced for the store market, or downstream finishing farms.
- 7.38. The difficulty in being able to meet intermediary demands for high volumes, consistent quality, timely deliveries, and out-of-season availability (Martinez, et al., 2010) means producers may need to aggregate their product with that of other growers. Product aggregation may occur through producer and consumer-led cooperatives, distributors and retailers.
- 7.39. Alternatively, by collectively managing individually-owned parcels of land so as to most effectively utilise the land use capability, producers may be able to consistently supply product year round. Collective management would be highly unusual in the New Zealand farming context, running contrary to the individualistic nature of most farmers.
- 7.40. Typically, once product is aggregated it is no longer identified with the farm where it was raised. However, as demonstrated by the market research, there is consumer demand to know about the unique origins of their local food, and to know how it is grown. Therefore, if product

aggregation does occur, the transparency mechanisms and labelling should be designed so as to ensure the identity of individual farms is reflected in the sale of the product.

Quality control:

- 7.41. In researching the development of organic horticultural exports from New Zealand, Campbell and Fairweather (1998) noted the emergence of one obvious trend, that a large number of 'green' food consumers are not motivated by environmental concerns but by product attributes such as taste, nutrition and perceived health benefits. The authors concluded that in order to receive any price premium that may be available producers of 'green / eco' agricultural commodities need to maintain a focus on quality, and not just the greenness or environmental credentials of their produce.
- 7.42. If taking on the role of 'meat product supplier', then farmers suddenly face a new set of responsibilities and risks over and above those of a 'livestock producer'. Failure of a product supplier to deliver is not tolerated and will result in an immediate loss of custom. As noted previously, if local food suppliers want to enter the mainstream food systems, then consistency is the most important feature of supply. This contrasts to the sometimes irregular seasonal production arising from farmers who are familiar with 'doing their best' with the seasonal resources available.
- 7.43. Maintaining consistent carcass quality that provides a quality meat product is of high importance. For smaller producers who often have limited quality control systems, maintaining consistent quality can be difficult to achieve, which is why they typically prefer live weight and sale yard selling systems which will not penalise them for poor quality.
- 7.44. As previously discussed, producers may need to aggregate their product with that of other growers in order to reach wholesale volumes. This aggregation provides its own challenges for product quality, consistency and traceability. With two or more suppliers traceability can be more difficult. It has been found that traceability requirements may be hindering the growth of local foods because they may be cost-prohibitive for small producers (Hazell, et al., 2006).
- 7.45. Any red meat local food system that aggregated product would need to create product monitoring systems that facilitate quick and easy product identification and traceability (Shipman, 2009). The demand for traceability could be driven by a number of factors including landowner branding, provenance or quality control management that seeks to manage factors such as food safety and carcass quality.

Providing Year-Round Supply – Conclusions and Recommendations:

- 7.46. Supplying product all year round is an important component of developing a successful local food system. Conventional farming systems in Otago are not conducive to finishing livestock year round, and as such, alternative methods for supplying a consistent product need investigation. The most likely method is through product aggregation.
- 7.47. Whatever method is used to provide year-round supply is dependent on the scale of the local food system, the number of producers and consumers involved in the system, and the farming

systems that underpin the production process. Any prospective developers of a local food system need to understand the level of demand for their product, and then manipulate the product supply trajectory to service this demand. This exercise should be completed as part of a business feasibility study, incorporating targeted research into expected supply and demand.

Shortening the Red Meat Processing Supply Chain

- 7.48. The 'natural, local' farming scenario that was most supported by participants in the market research included in its description that "animals are humanely killed on farm by a registered butcher in a portable abattoir and sold direct to consumers in the same area". Again this related to the 50% of consumers' values and 74% of potential issues with food production that related to 'animal welfare', and to the potential issues with food production that related to 'long distance animal transportation' (39%). Furthermore, 52% of the respondents implied that 'locally produced' is an important value when purchasing red meat, similarly 53% indicated a preference that 'money goes to local economy'.
- 7.49. As discussed in the market research, some researchers explain that a key component of a functional local food system is the need to build capacity to produce, distribute and control food supplies, and to keep the control of the decision making within the community rather than losing it through dependence on external sources. Such food systems are then able to meet many of the needs of a local community far more than a globalised food production system because "it can give priority to community and environmental integrity before corporate profit making. . . while reinforcing social identify and cohesion" (Anderson and Cook, 2000:237).
- 7.50. As such, a shortened food chain is considered a fundamental component of a local food system, where producers and consumers are closer both geographically and socially. "A food system model that has a shortened supply chain can incorporate additional layers of information that are lost in more complicated food supply chains. Knowledge of farming practices, environmental practice, customs of production, the producers and their ethics and personalities, will often become information seen as fundamental in a shortened supply chain" (Feagan, 2007:25).
- 7.51. For Wanaka-based farmers who are already engaged in directly marketing their farm products to local consumers, the existing supply chain is long and complicated. Due to their distance from existing abattoirs, the Wanaka-based farmers involved in the development of this study have expressed interest in the concept of establishing a local abattoir, and in doing so, shortening the supply chain. Establishing a locally based abattoir would mitigate concerns around the rising costs of transporting livestock to distant abattoirs, and the knowledge that these costs will continue to rise in the future as global oil supplies dwindle.
- 7.52. Related to this, the availability of a local abattoir would reduce the carbon footprint of the meat production supply chain, would return a greater proportion of the money to the local economy, and generate local employment. However, establishing a local abattoir is not a small undertaking and many factors need consideration. This study briefly discusses some of these factors, serving to highlight the requirement for further work and a full feasibility study to be completed.

- 7.53. Developing local food systems requires the development of organisational and production capacity across the supply chain. The lack of infrastructure related to distribution of local and regional food has been reported as a barrier to local food market development (Martinez, et al., 2010). The local food supply chain lacks mid-scale, aggregation and distribution systems that move local food into mainstream markets in a cost-effective manner, if this is what is demanded (Day-Farnsworth, et al., 2009).
- 7.54. For developers of local food systems, part of the process in evaluating whether a supply chain needs to be modified, integrated, or replaced is dependent on whether the goal is to move local food into mainstream markets in an effective and cost efficient manner, or whether that goal is to provide an alternative food system to the mainstream market. If the objective is to retain access to the mainstream markets, then it is likely that more components of the existing supply chain can be retained and integrated into the alternative supply chain. If an alternative food system is proposed, then it is likely that the existing supply chain will require wide-scale changes.
- 7.55. Local food systems have the potential to borrow some of the economic and logistical efficiencies of the industrial food system while retaining social and environmental priorities such as sustainable agricultural practices and contribution to local economies. However, for isolated communities such as Wanaka, the existing supply chain is not accessible and therefore not effective. Wanaka's distance from available abattoirs adds significant cost to livestock processing, particularly if the farmers want to retain ownership of the product and therefore have additional back handling transport costs to absorb.
- 7.56. The accessibility, or lack of accessibility, of meat processing plants can hinder the development of effective supply chains. Shifting processing activities (e.g., slaughtering and processing) to the local area may result in a larger portion of the value of the finished product remaining in the local area. Part of this effect may be due to producers retaining a greater share of the retail price of their products as they assume responsibility for additional supply chain functions (e.g., distribution and marketing).
- 7.57. Currently, those farmers wanting to retain ownership of the livestock product throughout the length of the processing supply chain will often be restricted by the lack of available abattoirs that are prepared to process low numbers of livestock on contract slaughter terms. Typically large abattoir processors will only process livestock which they are purchasing, adding value to, and then on-selling to retailers. In New Zealand there are, however, a number of smaller processors which will slaughter and process on a contractual basis, returning the product to the farmer.
- 7.58. Developing a new abattoir is not a small undertaking. The ability to sufficiently capitalise processing infrastructure is a significant hurdle in their feasibility. Research completed by an Australian farmer grower co-operative showed that the meat processing supply chain is a tough economic and cultural environment. Their research revealed many failed attempts of producers trying to become wholesalers and / or retailers. "The reasons for failure are many – success requires years of dedication and commitment, access to the necessary skills and management and significant capital. Investment participants need to be prepared to do this in the absence of any 'premium' that rewards the supplier above returns for producing a commodity product."

They went on to state, “Investigating participants in the meat processing and wholesaling sectors revealed that these are very high volume/ turnover and low margin sectors” (FreeEyre, 2010:3).

- 7.59. Preliminary financial analysis indicates a low return on investment from lamb processing and wholesaling activities combined with high risk. Testimonials from meat processors and wholesalers support project analysis that a ‘normal’ return on investment would be in a range of 0-2%, assuming no system failures or payment defaults (FreeEyre, 2010).
- 7.60. Though an abattoir would be the most significant single infrastructural investment that is required to establish an alternative supply chain for a red meat local food system, the full network of processing and handling facilities would need to be assessed.
- 7.61. However, the potential for generation of by-products arising from the meat processing supply chain is significant, thereby potentially affecting the profitability of a small-scale abattoir. The establishment of downstream cottage industries that can utilise the by-products, and the associated creation of local employment and retention of money within the local economy all need to be assessed as part of any assessment of the feasibility of developing a local abattoir.
- 7.62. Understanding what components of an alternative supply chain will be required can only be answered when each community decides what form they want the local food system to take. Whether it is to be integrated into the existing mainstream system, or whether it is to act as a standalone alternative system, will dictate what parts of the existing supply chain can be effectively used.

Management and Marketing:

- 7.63. Significant costs of direct marketing and management of processing has shown to present obstacles to expansion of local food sales (Biermacher, et al., 2007). Time involved in customer relations, managing processing, marketing and retailing is significant, and has been shown to be particularly extensive for farmers’ markets.
- 7.64. Producers often need education and training at the local level to meet market requirements and expand access to local customers on issues related to risk management, certification and liability requirements. For producers who are selling directly to local foodservice operations it has been found that some obstacles take on particular relevance, including local and national regulations, knowledge of purchasing practices and ensuring a safe food supply (Gregoire, et al., 2005).
- 7.65. If local food system advocates want to scale up their systems to compete with the existing industrial food system then there must be a reassessment of the full supply chain processes. This will require expertise from a variety of fields including management, food processing, transportation logistics and marketing. Improving production and supply chain management, filling gaps in regional food networks and robust supply chain partnerships will require investment in technical and entrepreneurial capacity, basic business acumen and drive.
- 7.66. For individual growers the management and marketing requirements will often be tacked on to the daily demands of farming, and unless appropriately resourced, can prove to be untenable.

Small local growers sometimes overcome scale limitations by pooling resources and diversifying tasks within the supply chain. Production pooling allows small local farmers to capture the advantages that come with larger scale production systems (economic and logistical efficiencies), and may work to meet the supply requirements of larger markets (Abate, 2008).

Shortening Supply Chain – Conclusions and Recommendations:

- 7.67. Producers who supply into a local food system have the potential to integrate into the existing mainstream supply chain, or to develop a standalone supply chain. For developers of local food systems, part of the process in evaluating whether a supply chain needs to be modified, integrated or replaced, is dependent on whether the goal is to move local food into mainstream markets in an effective and cost efficient manner, or whether that goal is to provide an alternative food system to the mainstream market.
- 7.68. If the goal is to provide an alternative food system to the mainstream market, then a full cost-benefit analysis and business feasibility study should be undertaken as part of the consideration of establishing an alternative supply chain. Understanding returns on investment, requirements for capital and the investment risks all need to be thoroughly evaluated.
- 7.69. As importantly, the flow-on effects from the establishment of a local abattoir and any associated downstream industries need assessing. The social and environmental benefits of establishing an alternative supply chain form a fundamental part of a feasibility study into the establishment of a local abattoir.
- 7.70. The establishment of local food systems require significant levels of management and marketing knowledge and skill to implement a successful business. Depending on the scale of the local food system that is being developed, this work will need to be completed by individual operators, shared amongst participants, or factored in as a budget cost in the larger scale businesses.

Completing the Supply Chain – Making Local Food Accessible

- 7.71. The market research undertaken as part of this project highlighted the importance of 'convenience' to consumers. When asked to indicate considerations when shopping for red meat, 'price or value for money' (65%), 'food quality or freshness' (61%) and convenience (51%) were significantly higher than other determining factors.
- 7.72. The findings also show that 'price' and 'convenience' are significantly more important for those who prefer Conventionally Farmed meat while quality is more important for those who prefer Organically Certified Farming. Similarly, in the interviews, the Typical Consumers indicated convenience and price as being important.
- 7.73. However, results of the research showed that Conscious Consumers are more likely to shop for meat at supermarkets, butchers shops and farmers' markets, and Typical Consumers tend to purchase meat mainly from the supermarket. These results indicate that though shopping convenience is a key consideration for all food shoppers, those consumers who participate in a

local food system are more likely to be flexible in their shopping patterns. These findings are reinforced by other New Zealand research.

- 7.74. One piece of research explores the lifestyle of consumers who purposefully purchased local, and found that purchasing local food was a 'way of life' and that for people "who express a strong intention to purchase local food, this behaviour is strongly related to the types of food they eat, how they cook their food, and where and when they eat it" (Miroso and Lawson, 2012:816).
- 7.75. The same report identifies that the limited distribution of local food products is a problem for local food consumers, but that they put an effort into shopping and do not feel to be under time pressure in their lives (Miroso and Lawson, 2012) and as such, one can assume, they are more prepared to spend time shopping beyond the normal convenience outlets.
- 7.76. Similarly, an English study which analysed the growth of demand for local food products suggested that there is a growing demand from a proportion of consumers for 'local products' that have a known and trusted provenance. The consumers who purchase these products expect to do so at smaller scale, specialised outlets such as independent butchers, farm shops and farmers' markets (Land Use Consultants, 2005).
- 7.77. In a small trading environment, the shoppers are likely to be devoted and are shopping because of the product itself. In the large-scale retailing environments, people will be less committed to a single product and will more likely shop on price and specials. Also, it has been found that when shopping in large-scale retail stores, where there is a proliferation of logos and branded products, it is easy for another logo / brand to get swamped by the others, with "consumers spend(ing) an average of 3 seconds deciding on the product purchase" (Land Use Consultants, 2005:17).
- 7.78. However, this research is at odds with other international research. A survey by Weatherell, et al. (2003) showed that the majority of consumers rank supermarkets as their preferred option for accessing local food. They suggest that consumers expect locally produced food to correspond to their regular shopping habits, retail outlets and end-product formats. This is largely due to the lack of time, convenience and opportunity associated with current lifestyles (Paloviita, 2010).
- 7.79. Other research suggests that when compared to mainstream foods, local foods may be more inaccessible for consumers to find due to seasonal constraints, limited convenience or limited awareness of farmers' markets / alternative market accessibility. For example, surveys suggest that reasons for not shopping at a farmers' market include the absence of availability in the customer's vicinity; a lack of knowledge about market existence; inconvenience (distance and opening hours); and food of comparable quality at more convenient locations (Martinez, et al., 2010).
- 7.80. Another study found that principles and values related to locally produced food gain support from consumers but in actual purchasing, decision-making and behaviour, those values seem to diminish and that hectic and busy lifestyles can be a barrier to buying locally produced food (Paloviita, 2010).

- 7.81. Our market research did clearly show that regional and national supermarket chains are increasingly seeking to source high quality local produce, and that if their required attributes of supply can be provided, then supermarkets stock local produce. This raises an ethical question for proponents of local food systems – what is the risk of appropriation by conventional corporate business models. An often discussed example is the organic movement, which in some places has become so large scale and industrialised that it operates under virtually the same structures and frameworks as the conventional food system (Allen, et al., 2003; Guthman, 2008). For some supporters of local food systems this has presented a moral dilemma, because often the larger businesses can deliver local foods effectively and efficiently, yet the profits of such activities are often going out of the region or offshore (Carnes and Karsten, 2003).
- 7.82. Another consideration, this time for producers who are supplying red meat to local food systems, is their need to maximise the value of the whole carcass. Demand for the better quality ‘hindquarter’ cuts is usually strong, but the poorer quality meats from the forequarter will often be difficult to sell. Under the conventional processing and marketing system the ability to maximise the value from the whole carcass arises from the ability to access a number of different markets.
- 7.83. For supermarkets with a large and diverse clientele, being able to sell the full range of product types is not normally an issue as there is normally a demand for the full range of product types. It is however, potentially an issue when the products are sold through specialised shops or markets, where the consumer-base is often more affluent. Again, however, this is dependent on the community in question. Whilst the research completed for this project showed that Conscious Consumers prioritised quality over price, other research has demonstrated that local food supporters demonstrated a trait of frugality (Miroso and Lawson, 2012). What is common to both pieces of research is that Conscious Consumers are prepared to shop beyond the normal convenience of supermarkets to source the product they desire.

Completing the Supply Chain – Conclusions and Recommendations:

- 7.84. Research is at times conflicting, with some international research suggesting that convenience and accessibility is important for all consumers, whilst the New Zealand based research shows that Conscious Consumers are prepared to sacrifice convenience to enable the purchase of local. For the two communities who are the subject of this study, understanding the best method of distributing and selling local red meat would need to be assessed as part of a full feasibility study.
- 7.85. Various factors come into play, including:
- The amount of red meat being supplied by the local producers, and the year-round consistency of availability of this product;
 - The target market, whether it is the larger pool of ‘typical consumers’ or the smaller, more discerning pool of ‘conscious consumers’;
 - The preferred shopping outlet for the target market;
 - The degree to which the producers wish to engage with the existing supply chain and in particular, with existing outlets such as supermarkets.

- 7.86. Understanding these factors will allow the local food system proponents to explore the feasibility of using existing alternative retail outlets (eg. farmers' markets, direct marketing), using existing specialist retail shops, or to consider the development of new specialist outlets such as butcheries or food retail shops.

8. Business Model Options and SWOT

Introduction

- 8.1. In this section we consider three different business models which could be used to drive local food systems initiatives, and discuss the strengths and weaknesses of each. Each of the three business cases is presented with a case study, so as to provide a real life context.

Individual Farmer-Led Production and Marketing

- 8.2. Labels and brands can be developed by individual farmer-entrepreneurs who combine a passion for sustainable agriculture with recognition that their product may be able to access alternative, and potentially, higher value markets. The farmer producers will generally set up their own standards and direct-market to buyers, explaining the advantages of their production methods along the way. Often they will not use a formal label, but allow their brand to symbolise their production methods.
- 8.3. Local food advocates will often support these producers because of the producer's practices, or because of the direct nature of the food transaction and its occurrence within the same (local) economy. Typically, the consumers will not require certification but instead will be satisfied by the direct contact and related transparency.
- 8.4. These systems can be limited by their ability to provide year round consistent supply, or in quantities that provide for any significant market penetration. As such, they are typically small scale ventures that have a limited number of dedicated clientele.
- 8.5. The limited influence of these individual farmer-supplier systems means they are usually dependent on the mainstream processing supply chain. Unfortunately this will often result in a no win situation, as the larger processors are often unwilling to process small numbers of livestock on a contractual basis. This leaves the livestock supplier at the mercy of other decision makers, and often having to resort to using willing, but less proximate processors.

Case Study: Wanaka Organics

Wanaka Organics is a Wanaka, Otago-based family-owned farming business. The owners have strong beliefs and interest in sustainable farming and have a focus “on building local food production systems that help build relationships between the local customer and the local farmer, aiming to create a legacy for a good environmental practice, while achieving a quality sustainable and healthy product. We want to support the organic, or chemical-free movement, in New Zealand and around the world, because we think it will benefit not only us, but the next generation, including our own children” (pers. comm John McRae, 20/08/12).

The farming operation of Wanaka Organics is currently certified to BioGro Organic standards. The organic status reflects the McRae’s commitment to chemical-free farming, but it is only one part of the overall commitment that this family have to long-term environmental and community sustainability. The organic certification acts as a mechanism for demonstrating compliance with the organic standards, and allows for marketing of the farm products to consumers who demand organic.

Marketing occurs by way of a farm website and word-of-mouth within the local Wanaka community. The McRae’s encourage consumers to visit their property and to understand the methods and forms of production they subscribe to. This face-to-face relationship, enhanced ability for customers to access the property and the open dialogue surrounding farm practices and philosophy provide authentic transparency.

Significant time is spent marketing and managing the food production enterprise, often drawing resources away from the daily farm management. Additional staff are employed to manage the poultry operation and occasionally stock work.

SWOT Analysis of Individual Farmer-Led Direct Marketing Schemes

Strengths:

- Low-cost set up.
- Transparency occurs through direct demonstration of integrity to consumers.
- Greater proportion of the product value is returned to the farmer.

Weaknesses:

- High workload of direct marketing and management.
- Increased daily workload which could demand additional labour.
- Less potential for larger scale environmental improvement to result from environmental certification of products.
- Difficulty in providing consistent year-round supply of product.
- Inability to enter the mainstream market due to inconsistent and low volume supply.
- Lack of formal certification processes will deter some larger retail purchasers.

Opportunities:

- Farmers are rewarded for their management practice and are incentivised by consumers to improve practices.
- The system is quick to establish, as it is primarily driven by the farmer supplier.

Threats:

- Due to the limited diversity and small clientele, some products may be more difficult to sell.
- Producer will require a certain level of turnover to make it viable.
- Smaller scale production is less likely to be accepted by more proximate mainstream processors. Correspondingly, costs of processing may be higher.
- The reliance on the mainstream processing component of the supply chain leaves the suppliers vulnerable to external decision making and change.

Farmer Associations and Clusters

- 8.6. There are a number of instances in which farmer associations or groups have begun to develop logos, brands and / or labels to identify their products. Groups may form for a variety of reasons, including:
- Recognition of locality, which could be a certain landscape, region or locality. The unifying feature of regional branding schemes is that the produce is sourced from a specifically defined geographic area.
 - Responding to regulatory or consumer pressures which are underpinned by environmental or community concerns, both real and perceived. They could include well-publicised food safety concerns, concerns over use of chemicals, effects of farming on water quality and health issues related to food.
- 8.7. Depending on the rationale for having formed the group, these groups may also set out production standards at this point and may involve an auditing procedure. However, often because the audit mechanisms are managed by the farmers themselves, there can be a conflict of interest – perceived or otherwise. If the production standards are transparent, and obviously rigorous, then this will alleviate some concern.
- 8.8. Some groups do not use auditing processes or certification, but simply loosely abide by a group vision or set of ideals. ‘Hawkes Bay Clean’ is a group of family owned orcharding businesses which have developed a broad set of principles rather than detailing specific outcomes. The group appears to be a collective of growers who share similar ideals and support each other in achieving those ideals (Toyne, et al., 2004).
- 8.9. The larger groups will often include a layer of internal management, marketing and group coordination. Smaller groups will typically split the management responsibilities and roles amongst the members, adding these tasks to their normal daily roles of farm management.
- 8.10. When comparing these groups to the individual farmer-lead marketing mechanisms, several advantages become obvious. Firstly, the larger scale will encourage the division of responsibility

of the management of the group, or alternatively, will provide for the employment of dedicated personnel to manage the requirements of the group. This allows farmers to continue to focus on their core strengths of farming and to leave the marketing and management to others with that particular expertise.

- 8.11. The ability to provide a year-round, consistent product will increase with a larger pool of producers, particularly as the spread of the geographic pool increases and the options for flexible collective land use increases.
- 8.12. As the scale of operations increase there will be an increase in demand for certification and auditing mechanisms to ensure that trust remains embedded in the local food system. Certification has the potential to drive real improvement in social and environmental performance, especially when the standards of certification are developed amongst a diversity of interests, and when these standards are audited by an external agency.
- 8.13. Certification is not mandatory however, and often will be considered unnecessary for smaller groups, or for farming systems that have a low environmental impact. Instead, the development of common goals and principles, that are shared by the producers, and which resonate with consumers, could be appropriate. The development of these principles will be underpinned by the local context, and the matters of importance which have been identified by the various community members involved.
- 8.14. However, as the scale of any local food production system increases, there will be less emphasis on locality and distinctiveness. Rather than being the point of sale for consumers, farmers are limited to the role of producer, and again, lose the direct connection with their clientele. For some producers this is a positive position to be in, as it allows them to concentrate on the farm management. However, for some consumers this could act as a deterrent, reducing the direct connection that they demand.

Case Study: Taupo beef – Regulatory branding

(from www.waikatoregion.govt.nz)

Taupo is the first place in the world where a regulatory cap-and-trade system has been put in place to cap the amount of nitrogen entering water through soil and groundwater from a non-point source, in this case, livestock. It is an initiative that has evolved over the past 10 years and has involved all stakeholders in the Lake Taupo area.

Scientists agreed that Lake Taupo is under threat from increasing nitrogen leaching from land uses in the catchment, and that to maintain the lake's current water quality, a 20% reduction in nitrogen coming from farmland is necessary.

Waikato Regional Council has given an environmental 'tick' to beef from farms that have accepted a cap on the livestock they carry and will manage their farming operations under strict external monitoring to ensure Lake Taupo's water quality is protected. The council's endorsement recognised environmentally sustainable farming practices and assured the public the beef was produced in a way that complied with new rules to protect the lake.

One of the farms involved in the scheme is Glen Emmreth Farm's, run by Mike and Sharon Barton, who have been involved in the development of the rules covering farming in the catchment. Mr Barton is a trustee of the Lake Taupo Protection Trust. More than 20 per cent of the Barton's farm is in conservation and river bank plantings. The farm is also involved in trials of new low nitrogen leaching farming methods.

Another participating farm is Hurakia Trust Farm, managed by Andrew and Rachael Mitchell on behalf of 800 people. 25% of the property is in conservation or riparian plantings. The trustees have recently taken the decision to retire a further 147 ha of farmland to protect the lake and increase biodiversity. They have recently begun a trial to test ways of mitigating nutrient leaching from hill country beef systems.

To try to compensate for the loss in livestock production, the farmers established the brand "Taupo Beef – grown right here" and have sought to extract a premium for this. "The restrictions that have been imposed on their farming systems have made farming unprofitable, and trying to recoup the cost of the negative externalities is effectively the premium that they are trying to recover" (Sharon Barton, 2012). It is currently only sold in high end restaurants in Taupo, to a market that is willing to pay a significant premium for this product. The marketing process informs consumers of the environmental management that is taking place, and includes imagery of the farmers, thereby connecting the consumers to the producers.

The farmers in the scheme have had to work hard to engage a processor who is willing to process on contract, and to engage in a process of full traceability (pers.comm Sharon Barton). However, in recent times, there has been a shift and the systems are now in place to allow this process to occur. Only the select high-end cuts are being sold by Taupo Beef, and the remaining cuts remain with the processor for sale.

The preferred position of the farmer suppliers would be to establish a consistent year-round contract price, but to date it has been tied to the fluctuations of the commodity price. The other difficulty has been the ability to provide consistent year-round supply of consistent quality. However, through careful farm management, this has been possible (pers.comm Sharon Barton). The quality and consistency of the cuts is of the highest importance.

At the retail end, it has been important to train the chefs and waitresses about the environmental attributes. Consumers often will enquire about the brand and the farmers that are presented to them in the marketing literature.

The group now wants to grow the demand so that other farmers can join the scheme. To do this they are trying to expand the number of outlets that will take their product. Understanding whether the support for a brand based on a specific location will continue in a distant location such as Auckland, has yet to be tested.

SWOT Analysis of Farmer Associations and Clusters:

Strengths:

- Economies of size will create efficiencies through the increased scale.
- The increased scale provides greater potential to utilise the existing mainstream processing supply chain, due to processor willingness to accommodate the suppliers.
- Certification provides external validation of producer claims, assuring a high integrity system.
- Product aggregation provides an enhanced ability to provide year-round product supply of consistent quality, and a range of products.
- Increased scale allows for greater potential to distribute through the larger-scale supply chain outlets, such as supermarkets.

Opportunities:

- Increased ability to develop a cost-effective management and marketing structure.
- Increased potential for a group's certification to drive landscape-scale environmental / community improvements.
- Marketing of the practices and identity of individual farmers within the group will allow consumers to support the producer of their choice.
- The potential to develop an alternative supply chain is increased, including the potential to develop specialist retail shops.
- Regulatory agencies can encourage improved environmental performance through market-lead incentives.
- Third-party NGO's have a potential role in establishing the standards of production, thereby providing consumers with confidence in the products, increasing demand for the product.
- Greater potential to initiate quality control systems and full traceability systems.

Weaknesses:

- An increased number of participants will require increased management overheads.
- The larger the scheme the higher the probability of the underlying principles and ethics becoming weakened.
- The larger the pool of producers, the greater the potential for disagreement on underlying principles and ethics.
- Potentially a long lead-in for the development of the scheme, as much infrastructure and system development is required. However, there is the potential for piece-meal development of the alternative supply chain.

Threats:

- An increased likelihood of not all producers committing to the principles and values that underpin the scheme, with motivation for joining arising from other reasons.
- An increased potential for a poor-performing producer to tarnish the reputation of the wider group.
- If not externally audited such systems may be open to criticism as the production methods may not be transparent and the claims could be made by farmers who have a conflict of interest.

- Aspiring to scale-up the size and spread of a scheme that markets its products as 'local' is at risk of being contrary to the very ethos of what is being promoted.
- Larger scale initiatives will immediately lose those attributes associated with authenticity and distinctiveness that are being promoted.

Community Network Model

- 8.15. A Community Network Model expands the network of active participants to be fully responsive to the needs of a specific community, and can address the needs of local growers, consumers, rural economies and communities of place through the creation of farmers markets, community supported agriculture (CSA), co-ops, and community gardens. Within such a system there is less of an emphasis on building economic infrastructure for alternative markets but instead offers a real alternative to market-oriented producer–consumer relationships (DeLind, 2002). Internationally such initiatives have arisen because the other types of local food systems (described in the two business models above) have often been shown to cater to wealthy consumers and as such represent a limited alternative to the conventional food system (DeLind, 2002).

Case Study: Growers Collaborative - Community Alliance with Family Farmers (CAFF)

The California-based Growers Collaborative is a non-profit organization that supplies public and private institutions with fresh, local fruits and vegetables. Through an online ordering system, the organization distributes fresh product directly to its food service customers in greater Los Angeles and the Bay Area.

Growers Collaborative also works to promote social justice by improving access to fresh, local produce in low-income communities and expanding wholesale market access for small family farms, women-led farms and growers of colour. The collaborative is moving toward a private-non profit partnership structure in order to focus on aggregation and branding, and to orchestrate physical distribution by pairing with mainline distributors.

The collaborative coordinates purchase orders and distribution with three box trucks and a van. Growers receive information on food safety and packing standards, but are responsible for their own washing and packing. The collaborative picks up produce directly from the farms of about half of its growers; the other half deliver to Growers Collaborative warehouses. Every product is fully traceable and bears both Growers Collaborative and farm labels. Growers Collaborative also helps institutions find locally available product and implement local food sourcing policies within their budgets.

Suppliers meet a range of production standards. Some are GAP and organic certified. The collaborative audits its farms for compliance with conventional safety and production standards. Buyers can review all of the collaborative's farmers and their growing methods online.

Employees include drivers, operations managers, regional managers and a farmer outreach coordinator.

Farmers set their own prices. Due to high demand, the organization is generally able to meet these prices without buyer resistance. The premium paid for local food can be minimal relative to the marketing opportunities gained when buyers can tout local food sourcing to their customers.

SWOT Analysis of the Community Network Model

Strengths

- Community-led with a wider network of influencing participants. This will provide a fuller view of that community's requirements of a local food system.
- Greater potential to provide a more comprehensive local food system that includes a range of food groups.
- Certification provides external validation of producer claims, assuring a high integrity system.
- Product aggregation provides an enhanced ability to provide year-round product supply of consistent quality, and a range of products.
- Increased scale allows for greater potential to distribute through the larger-scale supply chain outlets, such as supermarkets.

Opportunities

- Greater potential to deal with issues of food security and providing quality food for lower socio-economic groups
- The development of a new local food supply chain and distribution network provide opportunities for creating local employment.
- Increased ability to develop a cost-effective management and marketing structure.
- The potential to develop an alternative supply chain is increased, including the potential to develop specialist retail outlets.
- Regulatory agencies can encourage improved environmental performance through market-lead incentives.
- Locally recognised third party NGOs and community groups have a potential role in establishing the standards of production and distribution, thereby providing the consumers with confidence in the products, and increasing their accessibility, resulting in an increase in demand for the local food system.
- Greater potential to initiate quality control systems and full traceability systems.

Weaknesses

- Increased number of participants will require increased management overheads.
- The larger the pool of participants, the greater the potential for disagreement on underlying principles and ethics.
- Potentially a long lead in for the development of the scheme, as much infrastructure and system development is required. However, there is the potential for piece-meal development of the alternative supply chain.

Threats

- Protracted planning process in obtaining a consensus on the underlying principles and ethics may stifle the enthusiasm for some participants.
- The governance and project management structures would need to be well developed and able to effectively and efficiently respond to the large diversity of interests represented.

9. Conclusions:

- 9.1. The review of literature revealed that there are a number of reasons why local food systems are developed, and why producers and consumers choose to participate in these systems. These range from environmental sustainability, healthier and quality food, maintaining working landscapes, traceability and label of origin to more abstract concepts associated with spatial and social characteristics.
- 9.2. Our research demonstrated that there is significant demand for red meat that is branded as being 'local' and 'natural'. The research also clearly demonstrated that both consumer and trade interpretation of what constituted 'local' varied enormously, and in many cases the attributes of 'local' stretched far beyond a literal definition. This reiterates the results of our review of international literature and schemes.
- 9.3. It is clear that for a lot of consumers, food derived from a local food system is not enough to just be spatially local. Participants in a local food system must create a system that makes the consumers feel good, and to satisfy consumer demand, local food producers must offer environmental assurance with a local provenance. Freshness, taste and associations with locality – including the local economy – will need to be matched with expected social and environmental benefits. The key production attributes demanded by the Conscious Consumer group who are likely to support local food systems are:
 - High standards of animal welfare
 - No water pollution
 - Chemical-free
 - Traceability
 - Supporting local economy
- 9.4. From the perspective of the trade industry there is a high degree of enthusiasm for a product that recognises locality and naturalness. However, the trade sector will always prioritise consistency of product quality and continuity of year-round supply, plus efficient systems and strong relationships as the basics of business.
- 9.5. Arising from the international literature review and our own market research, a series of guiding principles have been developed so as to assist prospective developers of local food systems. These principles are that:
 - The Local Food System (LFS) should provide consumers with foods produced and processed as close to home as possible (proximate).
 - The LFS supports community identities through food labelling that recognises 'place' and associated environmental and socio-cultural attributes (provenance).
 - The LFS encourages consumers to know where, how and by whom their food is produced.
 - The LFS provides the mechanisms for supply chain traceability.
 - The LFS is characterised by many locally owned and operated food supply and farming businesses that provide local employment.

- Producers and others involved in the management of the LFS supply chain implement high standards of animal welfare in both farm production activities and in the transportation and handling of livestock off-farm.
- Producers in a LFS minimise the use of artificial inputs and chemicals within their farming system.
- Producers in a LFS conduct farming activities so that water and soil resources and biodiversity are enhanced.

9.6. A number of issues were identified which were considered pertinent to the development of a red meat –specific local food system. Seen through the eyes of prospective developers of a local food system, the main issues identified were 1) Needing to establish trust in the local food system; 2) Providing year-round consistent supply of product; 3) Shortening the red meat processing supply chain; and 4) Making local food accessible to consumers.

9.7. Producers who supply into a local food system have the potential to integrate into the existing mainstream supply chain, or to develop a standalone supply chain. For developers of local food systems, part of the process in evaluating whether a supply chain needs to be modified, integrated or replaced, is dependent on whether the goal is to move local food into mainstream markets in an effective and cost efficient manner, or whether that goal is to provide an alternative food system to the mainstream market.

9.8. If the goal is to provide an alternative food system to the mainstream market, then a full cost-benefit analysis and business feasibility study should be undertaken as part of the consideration of establishing an alternative supply chain. Understanding returns on investment, requirements for capital and the investment risks all need to be thoroughly evaluated.

9.9. As importantly, the flow-on effects from the establishment of a local abattoir and any associated downstream industries need assessing. The social and environmental benefits of establishing an alternative supply chain should form a fundamental part of any feasibility study.

10. Recommendations

10.1. This report has identified that there is significant demand for a local food system in both Dunedin and Wanaka, but to enable the development of a functioning local food system in either centre there is a requirement for further work to understand the potential.

10.2. Some important research is needed to provide a more comprehensive overview of the form that local food systems could take in either Dunedin or Wanaka. It is recommended that the following work is undertaken:

- An assessment of the type and quantities of food that is currently produced from the Dunedin and Wanaka districts. In conjunction with this work, understanding the current destination for this food is important.

- Informed by our understanding of the dietary and nutritional requirements for a healthy human diet, complete a needs analysis of the type and quantities of food required by the Dunedin and Wanaka populations.
- To meet the food requirements identified in the needs analysis, assess the extent of food requirements that could be produced locally, as well as the deficits in supply. Analyse why the deficiencies occur, and seek to understand if changes in land use and production, or the distribution of food will alter this situation.
- Evaluate the resilience and adaptability of the existing food production systems in both districts. Determine levels of dependence on external inputs, vulnerabilities to rising costs, weather extremes and population changes.
- Ascertain the level of producer support for a local food system, and explore ways of overcoming potential barriers to providing a reliable alternative local food system.
- Specific to the red meat sector, undertake an independent analysis of the cost efficiencies and the added margin that farmers can retain by keeping control of the product throughout the length of the supply chain.
- In Wanaka, complete a feasibility analysis of the potential to develop a small abattoir and the associated infrastructure. Within this analysis, assess the environmental and social flow-on benefits to the community.
- In both centres, explore issues surrounding local food security, and the potential role that a local food system may have in alleviating food security concerns. Understand what the key concerns are for low socio-economic groups.
- Better understand what consumers would demand of a fully functioning local food system, most notably in terms of accessibility, cost and convenience. In doing so, understand the potential scale of a local food system.
- Provide forums for local communities to evaluate opportunities to develop local food economies, and to explore ways of overcoming perceived barriers and constraints.
- Bring together a wide range of stakeholders to evaluate the strengths, weaknesses, opportunities and threats of developing a local food system. Collectively, consider what the future of a local food system will look like.

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