Does it Grow Here? The Impact of Local Food Systems on Social Capital in the Okanagan and Similkameen Valleys.

by

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Abstract
The purpose of this research was to understand the impact that local food systems have on community level social capital. Local food systems, inclusive of farmers markets and Community Supported Agriculture programs, have become increasingly prevalent and many communities are going forward with polices in support of local food provisioning (Winfree and Watson, 2017). However, the literature suggests the benefit of local food systems for communities is not well understood. In particular, little is known about the effect of these systems on community level social capital. Social capital refers to features of social life such as social networks, norms, and trust that facilitates cooperation between individuals and groups (Putnam, 1995). Building social capital is referenced as a potential benefit of local food systems because doing so enhances connections among participants which facilitates trust and cooperation. Understanding the connection between local food systems and social capital warrant further research because community level social capital influences community quality of life (Peters, 2017).

This research was conducted in the Okanagan Bioregion of British Columbia with a case study of communities where local food movements have grown in prominence in recent years. An exploratory mixed methods case study approach (Yin, 2003) was employed to answer the research questions. Using a grounded theory approach to the data analysis (Glasser and Strauss, 1999) allowed for themes about the role of social capital in local food systems to inductively emerge. An extensive review and analysis of literature to ascertain conceptualizations of social capital facilitated creating a framework for observing social capital in the context of local food systems. An online survey among local food system actors clearly revealed that local food system actors attribute a considerable level of social capital to their participation in the local food system. In depth interviews revealed that they have social networks in their local food system and ‘meaningful places’ facilitate these social connections. This study strongly supports the idea that participating in local food systems expands
community social capital through social networks as a consequence of sense of place and connection.
Local food is growing in popularity as a solution to many environmental and social problems associated with the food system. Communities are investing in local food systems because of this. However, past research tells us that the benefit of local food systems for communities is uncertain. The goal of this research was to understand if local food systems impact social aspects of community, including social relationships and levels of trust between community members in the Okanagan and Similkameen region (Okanagan Bioregion). We answered this question by conducting a survey and by doing interviews with different participants in the local food systems, including farmers and local food consumers. This research reveals that participants of this study have created social relationships through participating in the local food system and there are important places in the local food system that facilitate connection, including farmers markets.
Preface

This thesis is original, unpublished, independent work by the author, Chea Elton. The online survey and interview phases of research were conducted between September and November 2019 and were covered by the UBC Behavioral Research Ethics Board number H-1901179 and by Kwantlen Polytechnic University Research Ethics Board number 2019-33.

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# Table of Contents

Abstract ........................................................................................................................................................................... iii

Lay Summary ..................................................................................................................................................................... v

Preface ........................................................................................................................................................................ vi

Table of Contents .......................................................................................................................................................... vii

List of Tables ................................................................................................................................................................. x

List of Figures ................................................................................................................................................................. xi

Acknowledgements ............................................................................................................................................................ xii

Dedication ......................................................................................................................................................................... xiii

Chapter 1: Introduction ...................................................................................................................................................... 1

1.1 Overview .................................................................................................................................................................. 1

1.2 Research Objective and Research Questions ....................................................................................................... 4

1.3 Thesis Structure ....................................................................................................................................................... 6

Chapter 2: Literature Review .......................................................................................................................................... 7

2.1 Introduction ............................................................................................................................................................. 7

2.2 Issues with the Current Food System ................................................................................................................... 8

2.3 Local Food Systems .............................................................................................................................................. 11

2.4 Social Capital ........................................................................................................................................................ 16

2.5 Social Capital and Food Systems ........................................................................................................................ 18

2.6 Summary and Conceptual Framework ................................................................................................................ 19

Chapter 3: Methodology ................................................................................................................................................... 21

3.1 Introduction and Overview ................................................................................................................................... 21

3.2 Theoretical Approach and Rationale ................................................................................................................... 22

3.3 Study Site ............................................................................................................................................................... 24

3.4 Phase 1: Baseline Estimate of Social Capital Indicators ...................................................................................... 28

3.4.1 Design ............................................................................................................................................................... 28
3.4.2 Procedure and Analysis................................................................. 28

3.5 Phase 2: Online Descriptive Survey ............................................... 29

3.5.1 Design ......................................................................................... 29

3.5.2 Participants .................................................................................. 30

3.5.3 Procedure and Analysis.............................................................. 32

3.6 Phase 3: In-Depth Interviews .......................................................... 33

3.6.1 Design ......................................................................................... 33

3.6.2 Participants .................................................................................. 33

3.6.3 Procedure and Analysis.............................................................. 33

3.7 Ethical Considerations and Disclosure ............................................. 35

Chapter 4: Results ................................................................................. 37

4.1 Overview ........................................................................................ 37

4.2 Phase 1: Baseline Estimate of Social Capital ...................................... 37

4.2.1 Literature Review of Social Capital Indicators ................................ 38

4.2.2 Framework for Conceptualizing Social Capital ............................ 42

4.2.3 Baseline Assessment of Social Capital in Case Study Communities ... 43

4.3 Phase 2: Online Descriptive Survey .................................................. 50

4.3.1 Participant Role and Experience in Local Food Systems .............. 51

4.3.2 Baseline Level of Participant’s Social Capital ............................... 54

4.3.3 Participant’s Perspectives on Local Food Systems ....................... 60

4.3.4 The Connection Between Social Capital and Local Food Systems .... 62

4.3.5 Social Capital under Future Food System Scenarios ................... 63

4.3.6 Summary .................................................................................... 67

4.4 Phase 3: In-Depth Interviews ............................................................ 68

4.4.1 Agriculture in the Okanagan Bioregion ....................................... 70

4.4.2 Local Food Systems and Social Connection ............................... 72
List of Tables

Table 1: Predetermined Codes for thematic coding of interview data ........................................ 34
Table 2: Framework for Conceptualization Social Capital .......................................................... 42
Table 3: Secondary Sources for Reviewed for Social Capital Indications in Okanagan Bioregion Case Study Communities ........................................................................................................... 44
Table 4: Indicators of Social Capital derived from Community Vital Signs .................................. 47
Table 5: Review of Social Capital indicators in Statistics Canada Reports .................................. 48
Table 6: Survey participant breakdown for each case study area in the Bioregion compared to demographic characteristics. Source: Statistics Canada, 2017a, 2017b, 2017c. .................... 50
Table 7: Frequency of Roles Performed by Survey Respondents in their Local Food System. 53
Table 8: List of Questions in the Descriptive Survey that Measure Different Variables of Social Capital Indicators. .................................................................................................................. 54
Table 9: Participants Responses to Survey Questions 8a, 8b, 8c, and 8d. ................................. 58
Table 10: Summary of Responses for the amount of times participant’s joined with others in their local food system to address an issue .................................................................................................. 59
Table 11: Top Factors of Survey Participant’s Local Food System .............................................. 61
Table 12: Future Food System Scenarios and the Change in Social Networks: Participant responses on the quantity of members in local food system social networks under 4 future scenarios for local food systems. .......................................................................................................................... 64
Table 13: Future Food System Scenarios and the Change in Levels of Trust: Participants response on the change in the level of trust between members in local food system under 4 different future scenarios for the local food systems ........................................................................................................... 66
Table 14: Emergent Themes from Participant Interview by case study communities in the Okanagan Bioregion. Shaded areas indicate the most prominent themes that emerged .......... 69
List of Figures

Figure 1: Map of the Okanagan Bioregion outlined in orange within the province of British Columbia, Canada. Map sources: iMap BC and Delineating the Okanagan Bioregion for Food System Study, Research Brief from Institute for Sustainable Food Systems, Kwantlen Polytechnic University, Richmond B.C. ................................................................. 25

Figure 2: Survey Respondent's Role in their Local Food System. ........................................... 52

Figure 3: Survey Participant's Years of Involvement in their Local Food System. .................... 54

Figure 4: Number of members survey participants have in their local food systems social networks................................................................................................................................. 55

Figure 5: Quality of the social network indicated by participant’s perspective on whether or not they can count on someone in their local food system social network to help them if they needed. .................................................................................................................. 56

Figure 6: Frequency of contact survey participants have with members of their local food system social network. ............................................................................................................... 57

Figure 7: Word Cloud generated from words survey respondents used to describe the local food system. The larger the word, the more frequently it was used by participants. ...................... 60

Figure 8: Survey Participants rate the general effect that local food systems have on their community ................................................................................................................................... 62

Figure 9: Participants response on the impact of local food systems on two indicators of social capital: social networks and trust.................................................................................. 63
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Dedication

To the many loved ones who supported me on this journey. Evan, my family, my family of the heart, and my friends. I could not have accomplished this without your encouragement and love.
Chapter 1: Introduction

1.1 Overview

Feeding the world given anthropogenic climate change, limited natural resources, and a growing human population poses a significant challenge for our time (Davis et al., 2016; Garnett, 2013; Seekell et al., 2017). The current food system is a major driver of climate change (Vermuelen et al., 2012) and contributes to extensive environmental degradation and natural resource exhaustion (Ramunkutty et al., 2018). Climate change also threatens food production and food security, with agricultural yields and livestock productivity projected to decrease (Porter et al., 2014). At the same time, global food demand is expected to increase 60% globally by 2050 from 2007 levels (World Bank Group, 2015).

Achieving global food security, defined as “a situation that exists when all people, at all times, have physical, social and economic access to sufficient, safe and nutritious food that meets their dietary needs and food preferences for an active and healthy life” (The Food and Agriculture Organization of the United Nations [FAO], 2002, p. 49) has yet to be accomplished despite unprecedented levels of food production- enough to feed everyone on earth (Tscharntke et al., 2012). Hunger and extreme cases of food insecurity are experienced by over 700 million people globally (FAO, 2019), meanwhile, overconsumption, obesity and food-related disease is epidemic in some parts of the world (Lang and Heasman, 2015). Globalization of the food system exacerbates existing inequalities in wealth distribution and hence food access in some areas of the world (Allen and Wilson, 2008). Food is being inequitably distributed (FAO, 2004) and food insecurity disproportionately affects the world’s poorest populations (Allen and Wilson, 2008).

The environmental and social issues associated with the current food system have propelled the local food movement (Norberg-Hodge, Merrifield and Gorelick, 2002) and local food has become increasingly popular and important to people around the world (Stickel and Deller, 2014; Winfree and Watson, 2017). In North America, the number of farmers markets
and Community Supported Agriculture programs (CSAs) has increased significantly over the last 20 years (USDA, 2019), which is largely driven by a resistance to the current food system (Clendenning et al., 2016; Starr, 2010). This resistance is motivated by consumers beliefs and values (Zepeda and Leviten-Reid, 2004), as well as their desire to connect to place, feel sense of community and have social interaction (Carson et al., 2016; Feagan and Morris, 2009). In addition to being important to people, local food has become important to policy decision-making (Stickel and Deller, 2014). Concerns associated with the current food system have shifted the focus to local food related policy at international and regional levels (Godfray and Garnett, 2014; United Nations, 2015). Policy in support of local food is also seen at the community level across Canada and the United States, with communities considering that the promotion of local food has the potential to support community development, economic growth and build sustainable communities (American Planning Association, 2007; Goldenberg and Meter, 2019; Stickel and Deller, 2014).

Demand for local food and community investment in local food systems, including specific projects such as farmers markets, CSAs, and urban gardens, continues to grow (Aucoin and Fry, 2015; Brown and Miller, 2008; LaTrobe and Alcott, 2000). However, the impact that local food systems have on communities and their potential benefits for community members are not fully understood (Born and Purcell, 2006; Deller et al., 2017; Martinez et al., 2010; Stickel and Deller, 2014). Local food movement studies find that local food systems have the potential to be more environmentally sustainable than the current food system (Martinez et al., 2010; Pirog et al., 2001). Other research finds that participating in local food systems can provide health benefits to participants (Bimbo, Viscecchia and Nardone, 2012; Teig et al., 2009; Webber et al., 2013) and that buying local food can positively contribute to the regional economy (Hughes et al., 2008; Otto and Varner, 2005; Swensen, 2009). Additionally, research suggests that local food systems are associated with greater social justice than global food systems because they increase local food security.
(Cowell and Parkinson, 2003; Dolstad et al., 2016; Larson and Gilliland, 2009) and local food systems benefit communities by contributing to community social capital (Webb Farley and Bush Blancard, 2016; Glowacki-Dudka, et al., 2013).

However, the extent of these potential benefits and the methods used to derive these results are debated and argued to be speculative (Deller et al., 2017; Goldenberg and Meter, 2019; Stickel and Deller, 2014). Consequently, community planners, government officials and community organizations are investing in local food systems based on the understanding that local food systems can benefit their communities and community members in different ways. The current methods for understanding the impact that local food systems have on communities are limiting (Deller et al., 2017) and communities are going forward with local food initiatives and local food related policy without sufficient understanding of how these investments might impact their communities. A potential alternative method for estimating the impact of local food systems uses tools from social capital theory (Carson et al., 2016; Goldenberg and Meter, 2019; Putnam, 1995). Social capital refers to features of social life such as networks, norms, and trust that facilitate cooperation and collaboration between individuals and groups (Putnam, 1995). Understanding social connectivity through analyzing social networks, an indicator of social capital (Campbell et al., 2010; Fulkerson and Thompson, 2008; Stanley et al., 2012), is argued to be a suitable approach to estimating the impact of local food systems because it is more appropriate for the small scale of local food systems and it accounts for the important social ties that are necessary for economic exchange in community based food systems (Carson et al., 2016; Goldenberg and Meter, 2019).

Additionally, further research about the relationship between local food systems and social capital in communities is worthy of exploring because social capital is related to community health status (Folland, 2007), community collective action and adaptive capacity to climate change (Adger, 2003), community crime rate (Lederman et al., 2002), quality of
life (Peters, 2017) and individual well-being (Yetim and Yetim, 2014). Local food systems relate to social capital because local food systems are considered to have a superior advantage to the globalized food system in facilitating social networks, trust and cooperation between community members (Bauermeister, 2016; Deller et al., 2017; Glowacki-Dudka et al., 2013). Interestingly, it is noted in local food system research that the potential benefit of social capital development is the least explored and least understood aspect (Deller et al., 2017). There are very few studies that have explored the relationship between local food systems and social capital (Bauermeister, 2016; Glowacki-Dudka et al., 2013, Glover, 2004).

Using a case study of communities in the Okanagan and Similkameen Valleys in British Columbia, where local food movements have grown in recent years, this research sought to further understand the connection between local food systems and social capital at the community level. Additionally, this research contributes to a larger study, the Okanagan Bioregion Food System Design Project undertaken by the Institute for Sustainable Food Systems at Kwantlen Polytechnic University (Richmond, British Columbia). The objective of the Okanagan Bioregion Food System Design Project is to provide data driven information about the potential of increasing local food production in the Okanagan and Similkameen regions and whether this increase could improve food self-reliance, create jobs, reduce detrimental environmental impacts associated with food production in the region, positively impact community social capital and benefit the economy (Kwantlen Polytechnic University Institute for Sustainable Food Systems, 2017).

### 1.2 Research Objective and Research Questions

The objective of this study was to explore the relationship between local food systems and community level social capital so that communities are better equipped with the understanding of how local food systems impact their communities and community members. With this understanding, community leaders and community planners can better
advocate and more effectively plan for local food system initiatives and local food system
related policy that supports the needs of communities in the Okanagan and Similkameen
region. This research fosters an understanding of how local food systems impact community
level social capital and is used as a mechanism that benefits communities in ways that have
been largely unrecognized. Social capital developed through local food systems has the
potential to create new pathways for increased adaptive capacity, collective action, and self-
reliance in an era of climate change that threatens food supply in the Okanagan Bioregion.

An exploratory case study approach using mixed methods was employed to answer
the research questions in four case study communities in the Okanagan and Similkameen
Valleys. The strategy included: the creation of a social capital baseline using information
from secondary sources; and an online quantitative survey; and qualitative semi-structured
interviews to gain a place-based understanding of social capital in communities. This
approach adopts participatory based methods with local food system actors to co-create
knowledge on the relationship between local food and social capital. This research
addresses a gap in the scholarly knowledge and provides data-driven local food system
information to community leaders. In turn, this can support effective, purposeful decision-
making that advances sustainable local food systems, and by extension, sustainable
communities.

The research questions guiding this study were:

1. What is the relationship between local food systems and social capital?
2. Do local food systems impact community level social capital?
3. What are appropriate, valuable indicators of community social capital in the food
   system and how can those indicators be observed and measured?
4. What are the appropriate protocols to identify and measure the potential of social
capital development where local food systems exist?
1.3 Thesis Structure

This thesis is divided into 5 chapters. Chapter 2 positions this research within the existing literature on the current food system, the local food system movement, and social capital. Chapter 3 includes the methodological approach used for all three phases of research and includes the theoretical approach for this study. This section also discusses the site of research and why it was appropriate location for this specific study. Chapter 4 presents the results from all three phases of research and discusses the major themes that emerged from the data. Chapter 5 includes a discussion on the findings of this research and concludes with a brief summary of research, the limitations of this study and suggested areas for future research.
Chapter 2: Literature Review

2.1 Introduction
There is general consensus that the current food system is unsustainable (Niles et al., 2018; Ramakutty et al., 2018; Vermeulen et al., 2012). In order to address the complex food system sustainability challenge, a multifaceted and multidisciplinary approach is required at all policy levels and in all areas of the food system (Foley et al., 2011; Garnett, 2013; Godfray et al., 2010; Macdonald et al., 2016; Springmann et al., 2016). A wide range of multidisciplinary research has looked to local food systems as a sustainable alternative to the current food system (Mullinix et al., 2016; Sage, 2014; Schmitt et al., 2018). Communities and regional governments are going forward with investing in local food system initiatives and policy (Goldenberg and Meter, 2019); however, the potential impacts of local food systems on communities are not fully understood (Deller et al., 2017; Stickel and Deller 2014; Martinez et al., 2010). This includes the potential development of social capital through the enhancement of activities in local food system (Bauermeister, 2016; Glover, 2004; Glowacki-Dudka et al., 2013). Understanding how local food systems facilitate social capital in a community warrants further exploration, as social capital is considered essential for community well-being (Peters, 2017; Folland, 2007; Yetim and Yetim, 2014). Additionally, very few studies have looked at the relationship between social capital and local food systems (Bauermeister, 2016; Glowacki-Dudka et al., 2013, Glover, 2004) and this has yet to be completed in the Okanagan and Similkameen Valleys (Okanagan Bioregion) where local food systems have grown in the recent years.

This literature review is divided into three sections. The first section briefly outlines the issues associated with the current food system, concluding with a review of solutions to these issues proposed by researchers. The second section reviews literature related to the local food system movement and includes a review of research that debates the environmental, economic and social sustainability of local food systems. This section
highlights the need for further research on the methods for understanding the impact of local food systems on communities and concludes that a social capital analysis has the potential to fill this need. The third section reviews the literature on social capital, how it is measured, and how it is studied in the context of local food systems. The chapter concludes with a conceptual framework for the research.

2.2 Issues with the Current Food System

The industrialization, commodification and globalization of food has resulted in a number of widespread issues that are proving to adversely affect people and the environment (Lang and Heasman, 2015; Norberg-Hodge, Merrifield and Gorelick, 2002). Agriculture and the current globalized food system are responsible for major environmental degradation (Ramankutty et al., 2018; World Bank Group, 2015; Vermeulen et al., 2012). Agriculture is estimated to account for 80% of deforestation globally (Kissinger, Herold and De Sky, 2012) and is the main driver for tropical deforestation (Pendrill et al., 2019). Agriculture has fragmented forests (Haddad et al., 2015), is the leader in biodiversity and soil loss worldwide (Newbold et al., 2015), and has depleted freshwater resources, accounting for 92% of the human water footprint (Ramunkutty et al., 2018). The current food system is also a major driver of climate change, with agriculture production and associated land use change contributing 22-25% of global greenhouse gas (GHG) emissions annually (IPCC, 2014; Springmann et al., 2016; World Bank Group, 2015: Vermeulen et al., 2012; Smith et al., 2014). The majority of GHG emissions from agriculture occurs during the production phase (Ramunkutty et al., 2018; Vermeulen et al., 2012; Smith et al., 2014) and the production of animal products accounts for 72-78% of food production related GHG emissions (Springmann et al, 2018).

Climate change also affects global food production (Vermuelen et al., 2012). Temperature increases are projected to reduce agricultural yields and livestock productivity,
and the occurrence of shocks from climate change, including drought, floods and heat waves, are expected to increase (World Bank Group, 2015). These climate change shocks already impact food production in many areas of the world, especially in regions in the world that are most food insecure (World Bank Group, 2015). Beyond food production, climate change also threatens physical and economic access to food, as well as its sufficiency, safety and nutritional value (Niles et al., 2018; Porter et al., 2014).

Additionally, although the current globalized food system provides enough food feed the world (Alexandratos and Bruinsma, 2012; Garnett, 2013), food insecurity and hunger threaten many people. An estimated 800 million people suffering from hunger and over 700 million people exposed to severe food insecurity in 2018 (FAO, 2019). The FAO estimates that beyond severe food insecurity and hunger, 1.3 billion people experienced moderate food insecurity in 2018 (FAO, 2019). At the same time, obesity, overconsumption of food, and diet related diseases are on the rise in some parts of the world (Lang and Heasman, 2016). Since 1975, obesity has tripled worldwide (World Health Organization, 2018) and in developed countries, obesity is associated with low socio-economic status (Lang and Heasman, 2016). The low cost of energy dense, high calorie foods and the high cost of healthy foods (Aggarwal et al., 2011; Hruschka, 2012), as well as other social and environmental barriers to healthy food (Calloway et al., 2019; Smith and Morton, 2009), highlights the inequalities in food access perpetuated by the current food system.

Global food demand is predicted to increase by 60% towards 2050 from 2005/2007 levels (Alexandratos and Bruinsma, 2012), with the main driver being population growth, estimated to increase to 9.7 billion by 2050 (Alexandratos and Bruinsma, 2012; United Nations, 2019). Many of the fastest growing populations are in the poorest countries (United Nations, 2019). Currently, these areas show high levels of food insecurity and hunger (Alexandratos and Bruinsma, 2012; FAO 2019), and are at high risk of drought, floods and rising temperature, which is potentially devastating to subsistence agriculture and to the rural
Globally, the economic viability and livelihoods of rural communities has decreased (Hassebrooke, 2005) and the number of farmers has decreased rapidly (Norberg-Hodge, Merrifield and Gorelick, 2002). In Canada, primary agriculture as a source of livelihood is diminishing with farms growing in size and the number of farms decreasing (Canada Rural Revitalization Foundation, 2015).

There are many issues associated with the current food system. Meeting growing food demand, while also eradicating current global hunger and ensuring food security for all, will require major changes to policy, wealth distribution and consumption (World Bank Group, 2015). Several different broad solutions for the issues associated with the current food system have been proposed by researchers (Garnett, 2013; Kremen and Miles, 2012). A production side perspective, based on increasing food supply to combat increasing food demand and food security issues, includes strategies such as improving yields through efficiency and intensification via agroecological solutions. These solutions include: sustainable intensification (Davis et al., 2016; Godfray et al., 2010; MacDonald et al., 2016; Kuyper and Struik, 2014); organic farming (La Trobe and Alcott, 2010; Röös et al., 2018); and diversified farming systems (Kremen and Miles, 2012). A demand side perspective emphasizes the need to reduce the consumption of high environmental impact foods like meat and dairy products (Taylor, 2018; Westhoek et al., 2014; West et al., 2014); there has been significant research on the relationship between diet change and environmental benefit (Heller et al., 2013; Reynolds et al., 2014; Springmann et al., 2016; Westhoek et al., 2014).

A body of research argues for a change in food system governance, contending failure to achieve food security goals is due to the lack of current governance arrangements that consider the different dimensions of food system functions, including economic, ecological, and social (Delaney et al., 2018; Garnet, 2013; Hodbod and Eakin, 2015; Termeer et al., 2018; van Braun and Birner 2017). Additionally, addressing food waste is often cited as a strategy to improve food security and create a sustainable food system.
(Alexander et al., 2017; Foley et al., 2011; Smith, 2013; West et al., 2014), as one third of food produced for human consumption is wasted or lost globally (Gustavsson et al., 2011). Lastly, a prevalent strategy to address the problems associated with the current globalized food system, is a shift to more regionally focused food systems (Deller et al., 2017; Mullinix et al., 2016; Sage, 2014; Schmitt et al., 2018) because of a local food system’s ability to solve multiple social, ecological and economic issues associated with the current globalized food system (Born and Purcell, 2006; Deller et al., 2017, Stickel and Deller, 2014).

2.3 Local Food Systems

Local food systems are considered to have the potential to mitigate a number of issues associated with the current food system (Halweil, 2002; Norberg-Hodge, Merrifield and Gorelick, 2002) and are characterized by “small scale, localized production with direct-to-consumer sales though mechanisms such as farmers markets or Community Supported Agriculture (CSA) enterprises and increasingly intermediated sales to local grocery retailers, restaurants, and institutions” (Deller et al., 2017 p.612). Several researchers have concluded that local food systems are desirable because they provide food security, environmental sustainability, social justice, better health and nutrition, and equitable economic growth and development compared to the current food system (Born and Purcell, 2006; Deller et al., 2017; Martinez et al, 2010; Stickel and Deller, 2014).

As such, alternatives to the current, globalized system have become increasingly important to people in many parts of North America (Aucoin and Fry, 2015; Stickel and Deller, 2014; Winfree and Watson, 2017). Consumers are motivated to buy local food for many reasons (Martinez et al., 2010; Winfree and Watson, 2017) and are based on their personal values, belief and norms (Feagan and Morris, 2009; Zepeda and Leviton-reid, 2004). Consumers buy local products because of its freshness and quality (Brown, 2003; Keeling Bond et al., 2009; Wolf et al., 2005), to strengthen the local economy (Dunne et al.,
to support local farmers (Carpio and Isengildina-Massa, 2009; Thilmany et al., 2008) and to benefit the environment (Brown, 2003; Zepeda and Levitin-Reid, 2004). Social interaction and connecting to community are also motivating factors for farmers markets patrons (Carson et al., 2016; Feagan and Morris, 2009). Consumers are willing to pay a premium for local food (Thilmany et al., 2008) and this is not limited to consumers with higher incomes (Martinez et al., 2010).

Buying local food is seen as an act of resistance to the current food system and this has driven the increase in demand for local food (Feagan, 2007; Starr, 2010). North America has experienced rapid growth in the use of farmers markets and CSAs in the last thirty years (Aucoin and Fry, 2015; Brown and Miller, 2008; LaTrobe and Alcott, 2000). The number of farmers markets in the USA has increased from 2756 in 1998 to 5274 in 2009 (Martinez et al., 2010), and since then to 8771 in 2019 (USDA, 2019). The number of CSAs have also grown from 2 in 1986 to 1144 in 2005 (Martinez et al., 2010). There has also been a growth in advocacy for alternative food systems by transnational agrarian movements, civil society organizations, and human rights advocates (Desmarais, 2014; Patal, 2007) calling for radically different solutions to combat world hunger (Desmarais, 2014) including La Via Campesina and the Slow Food movement (Rosin, 2012).

Concerns associated with the current food system and the growing demand for local food has led to a refocus on food-related policy, at multiple levels (Godfray and Garnett, 2014; Goldenberg and Meter, 2019; Stickel and Deller, 2014). For example, at an international level, a call to action was made by the 2015 United Nations General Assembly in the 2030 Agenda for Sustainable Development with the goal to “end hunger, achieve food security and improve nutrition and promote sustainable agriculture” (United Nations, 2015, p.19). This is the first call to action that aims to eradicate hunger entirely, not just lessen it (Meybeck and Gitz, 2017), and urges for a sustainable food system, aligning with the many academic researchers and concerned communities calling for reformed food systems (Davis
et al., 2016; Delaney et al., 2018; Kuyper and Struik, 2014; Kremen and Miles, 2012; La Trobe and Alcott, 2010; MacDonald et al., 2016; Nelson et al., 2016; Reynolds, 2014; Röös et al., 2018; Taylor, 2018; Westhoek et al., 2014; West et al., 2014).

Local food system research is extensive and diverse (Born and Purcell, 2006; Schupp, 2017, Stickel and Deller, 2014). Many articles and books on the local food movement, found in both academic research and in popular literature, have been written over the last few decades (Schupp, 2017). In addition to the rise in local food system literature, research has also emerged that sought to assess the potential social, economic, and environmental sustainability of local food systems. Several researchers have reviewed the local food movement literature and summarized the main arguments as to why local food systems are considered a viable sustainable food system alternative (Deller et al., 2017; Martinez et al., 2010; Stickel and Deller, 2014). The main arguments are: local food systems are environmentally sustainable; they positively impact community health; improve food security; support local economies; and contribute to community level social capital (Deller et al., 2017; Martinez et al., 2010; Stickel and Deller, 2014). However, these potential impacts of local food systems are debated (Deller et al., 2017; Sage, 2014; Schmitt et al., 2018) and I provide a brief summary of the debates below.

Local food systems are considered environmentally sustainable because they are associated with decrease food travel miles, and this can reduce energy use, pollution, and GHGs (Martinez et al., 2010; Pirog et al., 2001). However, the overall environmental sustainability of local food systems is debated (Illbery and Maye, 2005; DeLind, 2010), particularly in regard to the energy efficiency and GHG contributions of local food systems (Dupuis and Goodman; 2005, Mundler and Rumpus, 2012; Shindelar et al., 2015). Food choices are more important for reducing food emissions than eating locally as transportation of food accounts for a very small percentage of total emissions and the majority of food related GHG emissions occur during the production phase (Mullinix et al., 2016; Ritchie,
In a number of cases, producing local food has a larger carbon footprint than importing food (Ritchie, 2020). In regard to the impact that local food systems have on participant health, studies have concluded that farmer’s markets and community gardens generally promote healthy lifestyles and healthy eating habits (Bimbo, Viscecchia and Nardone, 2012; Teig et al., 2009; Webber et al., 2013). However, such local food and health outcome studies have drawbacks because the conclusion of causality is speculative (Deller et al., 2017). Others have assessed how local food systems increase food security and impact food deserts (Cowell and Parkinson, 2003; Dolstad et al., 2016; Larson and Gilliland, 2009), but there is an assumption that local food systems improve food access to low income households, who are most at risk of food insecurity (Martinez et al., 2010). Moreover, work has suggested that purchasing local food has a positive impact on the local economy, through both import substitution and the localization of processing activities (Hughes et al., 2008; Otto and Varner, 2005; Swensen, 2009). However, the methods used to derive the economic impacts and the magnitude of the actual economic impact of food system localization are debated (Deller et al., 2017; Goldenberg and Meter, 2019; Jablonski et al., 2015). Lastly, research suggests that local food systems can build social capital by facilitating trust and cooperation between consumers and producers through social interaction (Bauermiester, 2016; Webb Farley and Bush Blancard, 2016; Glowacki-Dudka, Murray, and Issacs, 2013; Glover, 2004). However, social capital as a potential benefit of local food systems is the least understood and least explored (Deller et al., 2017).

Approaches to understanding the relationship between local food and society are wide ranging, but conclusions about the impact of local food systems on communities are not clearly articulated. Communities are going forward with local food system initiatives and economic development is often the motivation for promoting local food systems. However, methods used to deduce the economic impact of local food systems are debated (Deller et
Community planners and local government officials traditionally use a conventional economic analysis to make decisions and assess the benefits of investing into local food systems (Goldenberg and Meter, 2019). Traditional economic analysis used in many local food system studies do not consider the net changes in spending associated with switching to buying local (Deller et al., 2017; Hughes, 2008). For example, if a consumer decides to spend money at a local farmers market, traditional economic analysis-based studies see this as a new activity and not a transfer of one spending for another. The results are based on changes in gross spending rather than net changes in spending and can lead to an overestimation of the economic impact (Deller et al., 2017). Additionally, the data used for economic modelling is often not fine grained enough to reflect the economic exchange at the local level (Goldenberg and Meter, 2019) and conventional economic analysis does not consider the importance of social connectively that is the basis for economic exchange in community-based food systems (Goldenberg and Meter, 2019).

Goldenberg and Meter (2019) propose an alternative method of estimating the economic impact of local food systems by using tools from social capital theory (Goldenberg and Meter, 2019; Putnam, 1995). This includes analyzing social network maps and understanding how social networks are constructed in order to look at how communities build economic multipliers rather than just calculating economic multipliers through a traditional input-output economic analysis (Goldenberg and Meter, 2019). In essence, they advocate analyzing how connections and collaboration within the community are built and how they facilitate economic exchange in the community where local food systems exist. This study draws from the idea proposed by Goldenberg and Meter (2019) by exploring the impact that local food systems has on social networks in the local food system.

This review of local food systems literature reveals the need for further research on the impact that local food systems have on communities and highlights that an effective
method for understanding this impact is needed. Exploring the relationship between local food systems and community through the lens of social capital is worthy of investigation because of the fundamentally critical role that social capital plays in community well-being and development.

2.4 Social Capital

Understanding how local food systems impact social capital is an important task, as community level social capital influences many aspects of community including: quality of life (Peters, 2017); the status of community health (Folland, 2007); community collective action and the capacity to adapt to climate change (Adger, 2003; Grootaert et al., 2014); community crime rates (Lederman et al., 2002) and individual community member well-being (Yetim and Yetim, 2014). Other evidence indicates that communities which have low social capital tend to exhibit lower educational performance, more teen pregnancy, more youth suicide, and it is a strong predictor of neighborhood quality of life and community health (Putnam, 2000).

Social capital has been explored by a wide range of researchers (Fulkerson and Thompson, 2008). In their meta-analysis of 240 published and peer reviewed articles on social capital, Fulkerson and Thompson (2008) explain that the majority of social capital definitions refer to a conceptualization formulated by Robert Putnam, one of the founding scholars on social capital. This definition is also seen in more recent work on social capital (Cambell et al., 2010; Petzold, 2016; Stanley et al., 2012). Putnam defines social capital as the “features of social life – networks, norms, and trust – that enable participants to act together more effectively to pursue shared objectives” (Putnam, 1995, p. 664-665.).

Numerous methods are used to measure and observe social capital. Fulkerson and Thompson (2008) identify the six most common indicators of social capital found in the literature, which are: networks, resources, relationships, trust, reciprocity, individuals, and norms. Two indicators, networks and trust, are the most common indicators used to measure
social capital and are observed in a variety of different contexts (Cambell et al., 2010; Chazdon et al., 2013; Lui and Besser, 2003; Pelling and High, 2005; Kitchen et al., 2012; Petzold, 2016; Stanley et al., 2012; Ferragina, 2016). Networks, or social networks, refer to the informal and formal social ties that exist between people (Ferragina, 2016). Social networks are the most common indicator used in social capital measurement studies (Fulkerson and Thompson, 2008; Grootaert et al., 2004; Stanley et al., 2012). In some studies, it is the sole indicator used for observing levels of social capital (Cambell et al., 2010; Stanley et al., 2012). The extent of an individual’s social networks indicates the strength of social capital (Chazdon et al., 2013; Ferragina, 2016) and there are multiple ways to observe this. Social networks can be measured through interview questions (Cambell et al., 2010; Petzold, 2016; Stanley et al., 2012) and through survey questions (Chazdon et al., 2013; Grootaert et al., 2004; Kitchen et al., 2012; Liu and Besser, 2003).

Trust, in social capital theory, is described as a feature of social life that enables people to work together to achieve a shared goal; in general, the more we interact with people the more we trust them (Putnam, 2000). While the concept of trust can be difficult to measure however (Grootaert et al., 2004), trust as an indicator of social capital is commonly found in quantitative social capital survey assessments (Chazdon et al., 2013; Pelling and High, 2005). In these surveys, trust is measured by: the level of trust an individual has in general (Kitchen et al., 2012); the level of trust in community members (Liu and Besser, 2003; Petzold, 2016); the level of trust in local institutions (Petzold, 2016; Ferragina, 2016); and by the level of trust in people from different social backgrounds (Chazdon et al., 2013). Social networks, trust, and other common indicators of social capital are further reviewed and discussed in Chapter 4.2.1 (Results: Literature Review of Social Capital Indicators).

Studies that evaluate social capital at the community scale, do so in order to examine its role in policy (Cambell et al., 2010), its use as a tool in rural revitalization (Chazdon et al., 2013), its relation to community involvement (Liu and Besser, 2003), its connection to
community adaptive capacity (Petzold, 2016) and its influence on social exclusion (Stanley et al., 2012). Only a few studies have evaluated social capital as it relates to local food systems; none have yet explored this in the Okanagan Bioregion.

2.5 Social Capital and Food Systems

This study on the relationships between local food system and social capital in the Okanagan Bioregion adds to the body of literature on local food systems by building on previous work by Glowacki-Dudka et al., (2013) and Bauermesiter (2016). Glowacki-Dudka et al., (2013) utilized qualitative methodology to examine the role that social capital plays in sustainable local food networks in East Central Indiana. This study used grounded theory methodology and a qualitative interview research method to understand the role of social capital in local food systems. The role of social capital emerged through 9 informants’ perceptions of the food system and their connections with others in the system. They determined the local food system in East Central Indiana lacked necessary social capital for a cohesive system and was weakened by lack of trust and divided goals. They concluded that a strong level of social capital, facilitated by connection and coming together over shared objectives, was necessary for the development and success of the local food system in East Central Indiana.

Bauermeister (2016) used a mixed methods approach to analyze social movement organizations that were working towards a local food system in Marin County, California, in order to determine some of the barriers to the sustainability of the local food system (Bauermiester, 2016). This study observed the relationship between social capital and local food systems with key personnel within the organizations in the local food system (Bauermiester, 2016). Bauermeister examined social networks of organizational leaders in the local food system for evidence of social capital in the local food system using a quantitative survey and qualitative interviews. They found that social capital can enhance
collaboration among particular types of organizations while reducing potential collaboration among and between other social movement organizations (Bauermeister, 2016). These results suggested that to the extent social capital existed in the Marin County local food systems, it could facilitate collaboration, and conversely the lack of social capital would act as a barrier to collaboration.

My research draws from these studies cited above, by adopting the same sampling plan and use of grounded theory methodology used by Glowacki-Dudka et al (2013) and by using the same mixed-methods approach used by Bauermeister (2016). Thus, integrating both a quantitative survey and qualitative interviews, with local food system actors in the Okanagan Bioregion. This research builds off these studies by further exploring the connection between social capital and local food systems via investigating the impact that local food systems have on participant’s individual levels of social capital.

2.6 Summary and Conceptual Framework

This study uses a multidisciplinary conceptual framework derived from the literature on food systems and social capital to focus specifically on the connection that local food systems and social capital have with each other. Conceptual frameworks constitute a network of interlinked concepts that provide a comprehensive understanding of a phenomena (Jabareen, 2009). The assemblage of conceptual frameworks provided in the literature on social capital and sustainable food systems provide an interpretive approach to social reality and an understanding of their connection to each other in the study area.

This review of the literature culminates in a conceptual framework shaped by three key areas: the impacts of local food systems on communities requires more research, social capital theory is a lens for understanding these impacts, and that there are key indicators for observing social capital in communities. First, an overview of the literature on local food systems indicates that the impact of local food-oriented policy and practice on communities
is not well understood (Deller et al., 2017) and requires further exploration. Second, using social capital analysis as an alternative method for understanding the impacts of local food systems warrants further exploration because of the important role that social capital plays for community well-being and development (Adger, 2003; Folland, 2007; Goldenberg and Meter, 2019; Grootaert et al., 2014; Lederman et al., 2002; Peters, 2017; Yetim and Yetim, 2014). Lastly, a review of how social capital is conceptualized at the community level builds a framework of key indicators needed to understand community social capital in the context of local food systems. Together, these interlinked concepts build the conceptual framework for understanding the connection between social capital and local food systems.

The goal of this research is to understand whether local food systems facilitate the creation of social capital in communities. This literature review provided the methodological and conceptual basis for how to approach this question and provided a foundation for the research design needed to answer the research questions outlined in Chapter 1. The research design is described in the following chapter (Chapter 3: Methodology).
Chapter 3: Methodology

3.1 Introduction and Overview

There is a large body of work on social capital, how it can be measured (Fulkerson and Thompson, 2008; Cambell et al., 2010; Chazdon et al, 2013; Lui and Besser, 2003; Pelling and High, 2005; Kitchen et al., 2012; Petzold, 2016; Stanley et al, 2012; Ferragina, 2016), and its role for community well-being (Peters, 2017; Folland, 2007; Adger, 2003; Grootaert et al., 2014; Lederman et al., 2002). However, there are few studies that observe and measure social capital in the context of local food systems (Bauermeister, 2016; Goldenberg and Meter, 2019; Glowacki-Dudka et al., 2013). Therefore, this research fills a gap in what is known about local food systems and seeks to understand the relationship between local food systems and social capital at the community level, using the Okanagan Bioregion as a case study.

This research was an exploratory, sequential mixed methods case study (Creswell, 2014; Yin, 2003; 2015) and was divided into three phases. Phase I included an extensive literature review of the indicators of social capital from which I created a framework for observing social capital in the case study communities. Additionally, a baseline understanding of community level social capital was explored through a review of secondary data in order to establish context. Phase II included a quantitative online survey which elucidated local food system actor perspectives on the role of local food systems in their community and assessed their individual level of social capital in relation to their participation in the local food system. Phase III included qualitative participant interviews which further delineated the relationship between local food systems and social capital and revealed key indicators of social capital that are of most interest within the community.
3.2 Theoretical Approach and Rationale

This research sought to understand the connection between local food systems and social capital from the perspective of those engaged in the local food system. I used a social science perspective for this research, which focuses on the causes and outcomes of human activity, and often uses human desires and beliefs to explain human action (Graham, 2005). This is an epistemological approach that is humanist and anti-naturalist, emphasizing human agency and the characteristics of human action such as intentionality, rationality and reflexivity (Graham, 2005). This approach emphasizes humans as individual decision makers, subjectivity, and values how humans perceive the world (Merriam and Webster, 2016).

As my objective was to gain the perspectives of active participants in the local food system of the Okanagan and Similkameen Valley regions, I adopted a community based participatory research approach. A community-based participatory approach is not a method but rather an approach to research (Minkler and Wallerstein, 2008) based on the researchers’ ethical orientation (Buchanan et al., 2007) and their epistemological position (Caine and Mill, 2016). This approach asserts that researchers must demonstrate respect for community members (Buchanan et al., 2007), and it draws from my constructivist theoretical perspective, which contends that knowledge is socially constructed together by researchers and participants (Caine and Mill, 2016). This approach includes “the co-construction of research between researchers and the people affected by the issues under study” (Jagosh et al., p. 312) and recognizes the experience and knowledge of participants as valuable and valid (Fletcher, 2003; Kesby et al., 2005). Community-based participatory research actively engages the community and emphasizes that research is grounded in the views of the community (Caine and Mill, 2016). This approach is about working with communities rather than on communities (Kesby et al., 2005) with mutual respect and trust as core elements (Cargo & Mercer, 2008).
This research used elements of community-based participatory research methods where relevant, possible and appropriate. For instance, co-design of the data collection instruments or joint interpretation of the data (Caine and Mill, 2016), were not possible given research timelines. The research did engage with community members to co-create knowledge on the relationship between local food systems and community social capital. This knowledge was derived from the beliefs and perspectives of participants of the local food system. It is important that community members in the study were the source for this knowledge, as truth and reality are constructed by those in the community (Graham, 2005). Also, it is those community members who will be affected by any policies or practices that evolve from this research (Caine and Mill, 2016).

Given this theoretical approach, a mixed method, participatory strategy was used to work with local food system actors to understand the impact of local food systems on community social capital. The mixed methods approach began with a secondary source data review to provide an understanding of the existing level of social capital in the study area. This was followed by the survey of local food system actors to provide a broad understanding of the nature of social capital in food systems and, finally in-depth interviews were conducted to ascertain a depth of meaning of social capital in the local foods system among local food system actors. The mixed method strategy was designed to provide both quantitative evidence for a breadth of understanding of social capital in the local food systems from a larger population sample, and qualitative evidence derived from a smaller population for a deeper exploration of the issue (Wilkinson, Bouma and Carland, 2019). Using this mixed methods approach facilitated a more complete understanding of the research problem compared to using one approach alone (Creswell, 2014).

The use of a case study in the Okanagan and Similkameen Valley region is appropriate and aligns with the working definition of case study defined by Yin (2015): “an empirical inquiry that closely examines a contemporary phenomenon (the case) within its
real-world context” (Yin, 2015 p. 194). Yin (2015) argues, the “case” should be a concrete entity, such as a person or community. As such, this research involved individuals and communities that participate in local food systems. The Okanagan and Similkameen Valley case study aligns with “real-world context” because is not an isolated case in an artificial environment (such as experiment in a laboratory) and this adds to full and more accurate understanding of the case (Yin, 2015).

Grounded theory is used in this research to analyze the data collected as it provides a context to derive a general theory grounded in views of participants (Creswell, 2014). In this way, generating a theory comes from the data and is worked out over the course of the research (Glaser and Strauss, 1999). The grounded approach to data analysis is an inductive research process where one interacts with the data by moving back and forth between data and emerging analysis (Bryant et al., 2011) and by coding data and theoretically sorting them to allow a theory to emerge (Bryant et al., 2011).

3.3 Study Site

This research was operationalized with a case study of four communities within the Okanagan bioregion, constituting the Okanagan and Similkameen Valleys in British Columbia Canada (Figure 1), where local food movements have grown in strength in recent years. A bioregion is an area with similar human, cultural, and ecological characteristics, such as climate, hydrology, topography, which all support social and economic activity within a region (Thayer, 2003). Bioregional level assessments are argued to be a more suitable approach to defining local food systems because they integrate both the human and non-human dimensions of place (Harris et al., 2016; Roberts et al., 2018). Therefore, the study area aligns with the Okanagan Bioregion as defined by Roberts et al., (2018). The Okanagan Bioregion is also consistent with the boundaries of the North Okanagan, Central Okanagan and Okanagan-Similkameen Regional Districts (Roberts et al., 2018). Further, 5.1% of the
bioregion’s land base is in the Agriculture Land Reserve (ALR). The ALR is a provincial land use zone designated for the preservation of agricultural land in British Columbia (Agriculture Land Commission, 2019). The Okanagan Bioregion is also the traditional and unceded territorial lands of the Syilx/Okanagan peoples which is a vitally important area for the people’s traditional food gathering and agriculture (Pooley, 2017; Terbasket, 2019).

Figure 1: Map of the Okanagan Bioregion outlined in orange within the province of British Columbia, Canada. Map sources: iMap BC and Delineating the Okanagan Bioregion for Food System Study, Research Brief from Institute for Sustainable Food Systems, Kwantlen Polytechnic University, Richmond B.C.

The Okanagan Bioregion is an agriculturally rich area that supports orchards, vineyards, cattle ranches and annual crop farms (Tudge, 2010). Agriculture has played an important role in the Okanagan Bioregion economy for more than 100 years (Ormsby, 1935; Senese, 2010) and the promotion of this agricultural landscape played a large role in the settlement of the area (Senese et al, 2019; Wagner, 2008). Local food and agriculture remain a significant part of the region’s culture, identity, and regional tourism (Regional
District of the Central Okanagan, 2018). Four case study communities, Vernon, Kelowna, Osoyoos and Keremeos, were chosen to represent the different geographic areas of the Okanagan Bioregion (North, Central, South and West), their community centers, and their associated social networks: (Figure 1). Each has a local food system dimension and a distinct agricultural and social landscape. This study aimed to elucidate the connection between local food systems and community social capital in the Okanagan Bioregion, and the four largest communities in each regional district of the bioregion were chosen in order to reflect the diverse social groups that exist within the region.

Agriculture has been an important sector of the region’s economy. In the North Okanagan, agriculture remains an important part of the regional identity (Regional District of the North Okanagan, 2015). Vernon is the largest community at the northern end of the Okanagan Bioregion and it has a long history of agriculture, beginning more than 100 years ago with cattle ranching (Regional District of the North Okanagan, 2015). Kelowna, located in the central part of the Okanagan Bioregion is a city with a unique agricultural landscape as 40% of the city’s total land area is within the ALR (BC Ministry of Agriculture, 2014). Congruent with the long history of agriculture in the area, current policy aims to further preserve Kelowna’s unique agriculture and farmland landscape (City of Kelowna, 2017). There is also strong community support for local agriculture in Kelowna (City of Kelowna, 2017) and a significant agri-tourism industry exists (Regional District of the Central Okanagan, 2017) largely driven by ‘amenity migrants’ (Senese, 2010).

Osoyoos is at the southern reaches of the Okanagan Bioregion and borders the United States. It is surrounded by very productive agricultural land with orchards and vineyards dominating the landscape (Town of Osoyoos, 2013). The introduction of irrigation turned this semi-arid high desert landscape into a premier tree fruit growing area, with 96% of BC’s soft fruits grown there (Town of Osoyoos, 2013). Keremeos is a village located in the south east end of the Okanagan Bioregion within the Similkameen Valley, 48 kilometers
northwest of Osoyoos. The Similkameen Valley is the organic farming capital of Canada with over 40% of farms in the area certified organic (Similkameen Valley Planning Society, 2018) and the oldest cultivar of wheat grown in Canada is found here (Similkameen Valley Planning Society, 2018). It is also known as the Fruit Stand Capital of Canada, with fruits stands being a major component of the local economy; some being more than a century old (Similkameen Valley Planning Society, 2018; Village of Keremeos, 2013).

The Okanagan Bioregion is both a unique study area as well as one that is representative of other communities. The Okanagan Bioregion is a unique region where agriculture is historically, culturally, and economically significant seen in its presence and role in everyday life in the Okanagan and Similkameen Valleys. The bioregion is representative of local governments investing in local food systems and social capital related policies to support sustainable community development. Local governments throughout the Okanagan Bioregion are investing in local food systems via local food related polices that support local agriculture production and protect local farmland (City of Kelowna, 2017; City of Vernon, 2013; Town of Osoyoos, 2007; Village of Keremeos, 2013). Local governments have also set goals and polices that relate to community social capital development and include programs that support socially connecting residents, creating access to social opportunities, and increasing community participation and engagement (City of Kelowna, 2018; City of Vernon, 2013; Social Planning Council of the North Okanagan, 2010; Town of Osoyoos, 2017; Village of Keremeos, 2013). This makes the Okanagan Bioregion an ideal area to study the connection between local food systems and social capital because local food and agriculture is vitally important to the region, and because investments in local food systems and the promotion of social capital related community policies are developing (Tudge, 2010).
3.4 Phase 1: Baseline Estimate of Social Capital Indicators

3.4.1 Design

The first part of phase I included an extensive literature review on the conceptualizations of social capital and the indicators used to measure social capital. The review of academic literature identified existing definitions, indicators and measurement techniques of social capital, which created a framework for observing social capital. The literature review also informed the choice of variables operationalized in the research, and the questions posed in the online survey and subsequent interviews (Creswell, 2014). In the second part of phase I, secondary sources were reviewed to provide a baseline understanding of social capital in the four case study communities. The purpose of a baseline understanding of social capital in the four case study communities was to give context by understanding the existing level of social capital. A baseline understanding of social capital also gives opportunity to observe change and provide basis for comparison.

3.4.2 Procedure and Analysis

I identified the pertinent indicators of social capital found in the literature and from that a framework for measuring social capital, in tabular form, was created. This framework guided the review of secondary sources used to estimate the baseline level of social capital in the four case study communities. I searched for indicators of social capital in secondary source documents. The secondary sources I reviewed included regional and municipal government documents and databases, publicly available survey data, community websites and Statistics Canada survey data.

Analysis of secondary source derived data was conducted by organizing data from the secondary sources based on codes derived from the framework of social capital indicators. These data were then interpreted by comparing them to the framework of social
capital indicators and used to estimate the level of social capital found in these case study communities. For example, Community Vital Signs reports from three of the Reginal Districts in the Okanagan Bioregion report community “Sense of Belonging”, which is based on estimates of social connections in community and sense of trust (Central Okanagan Foundation, 2015). The measurement of “Sense of Belonging” was coded as an “indicator of trust” and “indicator of social networks” and were considered a measurement of level of trust and strength of social networks. I present and summarize the findings from the secondary source review in tables and conclude with drawing conclusions about the baseline of social capital in the case study communities.

3.5 Phase 2: Online Descriptive Survey

3.5.1 Design

An online self-completed descriptive survey (Parfitt, 2005) was created using survey software (Qualtrics, Seattle, Washington) based on the research questions. The advantage of using a survey is that it gives important general information which can be analyzed and explored to find any key issues or themes that are statistically significant (Merriam and Tisdell, 2015) and then be further explored in subsequent phases of the research. The survey design was adapted from other social capital assessment surveys used in studies on social capital at the community level (Chazdon et al., 2013; Kitchen et al., 2012; Lui and Besser, 2003). This includes research conducted by: Chazdon et al., (2013), who created a conceptual framework and assessment tool to measure social capital in rural communities; Lui and Besser (2003), who tested how dimensions of social capital relate to participation in community improvement activities for elderly residents in rural communities by using four dimensions of social capital; and Kitchen et al. (2012), who proposed a Social Capital Measurement Tool to create a way to account for differences in social capital perceptions and actions among residents of Hamilton, Ontario.
The survey I created was distributed through email to an inventory of local food system actors and further distributed through third party emailing and posting. The survey was used to gather information on actor’s experience with local food and their individual level of social capital. The survey also gathered data to determine a place-based understanding of local food systems, including community perspectives on the impact of local food systems, the relationship between local food and social capital, and opinions on the future of the local food system in the Okanagan Bioregion. The two survey questions about the future of the local food systems included four future scenarios created by the Okanagan Bioregion Food System Design Project (OBFSDP) team. These scenarios were used in the OBFSD project to explore how outcomes of the local food system (food self-reliance, economic impacts, environmental outcomes) would change under different future scenarios. These questions relate to the fourth research question and were included in the survey to explore how survey respondents believe social capital might change under different scenarios for the local food system.

From the survey data, using exploratory descriptive statistics, local food system themes of community interest and key indicators of social capital were determined (Babbie, 1995). Key themes derived from survey responses then shaped the interview questions and were further explored in the semi-structured interviews.

3.5.2 Participants

Participants for this research were chosen using purposeful sampling and criterion-based selection. Purposeful sampling was used to focus the research on participants and sites that provide understanding, discovery and insight into the research problem (Creswell, 2014; Merriam and Tisdell, 2015). The advantage of purposeful sampling is that it emphasizes obtaining an in depth understanding of a specific case, which leads the
researcher to learn a great deal about issues of central importance to the purpose of the study (Patton, 2015). Individuals were selected who meet a certain criterion for the study and who are considered representative of community members who participate in local food systems.

The criterion for selecting the sample were based on sampling criteria used for similar studies on local food systems and community social capital and to directly reflect the purpose of the study (Bauermeister, 2016; Glowacki-Dudka et al., 2013; Merriam and Tisdell, 2015). The criteria were that the participants must have experience with or connection to a local food system in the Okanagan Bioregion. As such, participants were involved in local food production, distribution, processing, buying and consuming, community groups, activism and education. Such criteria were necessary because the purpose of the study was to understand the impact that local food systems have on community social capital, so participants must have some knowledge of their local food systems and what it involves.

The survey link was sent to a local food system participant contact list, constructed from publicly available sources, that included 200 email addresses. It comprised community organizations, local food distributors, local farms, farmers markets, community farm organization, food markets, fruit stands, farm to table restaurants, orchards, local food processors, local food producers, urban farms and community food box organizations located in the Okanagan Bioregion. Third party organizations also distributed the survey link to their member email list and promoted it on their social media pages. Organizations who distributed the survey link on behalf of the researcher included: North Okanagan Land to Table Network, the Institute for Sustainable Food Systems’ Okanagan Bioregional Food System Design Project, Urban Harvest Organic Delivery, One Big Table, Vernon Farmers Market, Central Okanagan Community Farm Society, and Food Action Society of the North Okanagan.
3.5.3 Procedure and Analysis

The survey consisted of 18 questions (Appendix A), designed to explore the local food system actor perspective regarding the relationship between social capital and local food systems. To establish survey validity, the survey was administered among a small group of colleagues from the Institute for Sustainable Food Systems at Kwantlen Polytechnic University. They gave constructive feedback on question format and quality, survey flow, and if there were any technical issues. The survey link was sent out to local food system actors at the beginning of September 2019 and was open for responses for two weeks. This deadline was extended by another two weeks due to lack of response in the South Okanagan and Similkameen regions of the case study area. To encourage response from these areas, the survey link was distributed again by the organizations listed above. Also, a few organizations emailed the survey link directly to their members who live in the South Okanagan and Similkameen. The survey data were then tabulated, extrapolated into reports and then used to form the interview questions.

A simple statistical descriptive analysis of the data was completed for all variables in the survey using Qualtrics. This includes the means, standard deviations, and range of scores for all the variables. Babbie (1995) explains that descriptive statistics “is a method for presenting quantitative description in a manageable form” (pp 415) by describing single variables or to describe associations between variables. I described single variables using data reduction to provide manageable summaries of the data (Babbie, 1995). I presented the results using tables, drew conclusions from the results and discussed how the results informed the semi-structured interviews.
3.6 Phase 3: In-Depth Interviews

3.6.1 Design

Qualitative semi-structured interviews were conducted for the purpose of exploring participant perspective on how local food systems impact community and to drill down on the key indicators of social capital most relevant to local food system actors in the case study communities. Including an interview component to this research was deemed essential because the ability of surveys to be explanatory is limited and are not tailored to individuals’ experiences (Merriam and Webster, 2015; Valentine, 2005). The interviews took a semi-structured form to allow for a more wide-ranging discussion and allow space for topics not anticipated (Valentine, 2005). Interview questions were informed by the overall research questions and were created based on the results of the survey with the objective of exploring the reason behind the survey results with local food systems actors (Appendix B).

3.6.2 Participants

Interview participants were recruited through the online survey. The final question in the survey was an invitation to be contacted for a one-on-one interview. Participants had the option to select yes and include their email or simply end the survey. Out of the 105 completed survey responses, 60 participants submitted their email for re-contact. The 60 participants who submitted their email were re-contacted and invited to participate in a follow up interview. Due to time constraints and availability, 22 interviews were completed. Interview participants included a range of local food system actors from the Okanagan Bioregion.

3.6.3 Procedure and Analysis

Participants were emailed and asked to contact the researcher if they were interested in participating in an interview. The participants and the researcher set up a time for a phone,
web-based, or in-person interview, and the participants were sent a consent form. Interviews were conducted during October and November of 2019. The interviews averaged 45 minutes and 23 interviews were conducted. Interviews were then transcribed using NVivo transcription software (QSR International, Melbourne, Australia). NVivo software was used to code interview data and identify themes. Predetermined codes based on the framework of social capital indicators (Table 1) were used to analyze the interview transcripts (Creswell, 2014), as well as codes emerged through the data analysis process. Coding was used to create a description of categories and themes for analysis. Generating codes for description, which is a detailed account of information about people and places in a setting, is a useful way for developing detailed descriptions for case studies (Creswell, 2014). Themes developed into a theoretical model (as per grounded theory), across cases (as in case studies), using a constant comparative method (Creswell, 2014; Glowacki-Dudka, Murray and Isaacs, 2013). I discussed several themes and subthemes that emerged and included details about multiple perspectives from participants and key participant quotations. Findings of this analysis were conveyed through a narrative discussion and included tables to supplement the discussion.

Table 1: Predetermined Codes for thematic coding of interview data

<table>
<thead>
<tr>
<th>Codes</th>
<th>Code Label</th>
<th>Definition/When to use</th>
</tr>
</thead>
<tbody>
<tr>
<td>Social Networks</td>
<td>SNS</td>
<td>Relationship or ties between individuals in groups</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Frequency of contact with network, size of network, importance attributed to network</td>
</tr>
<tr>
<td></td>
<td></td>
<td>(Chazdon et al., 2013; Ferragina, 2016; Fulkerson and Thompson, 2008; Grootaert et al, 2004; Stanley et al., 2012)</td>
</tr>
<tr>
<td>Trust</td>
<td>TRT</td>
<td>Trust in community members, trust in local institutions, if network provides help when needed</td>
</tr>
</tbody>
</table>
3.7 Ethical Considerations and Disclosure

This research involves human participants and required approval from both the UBC Behavioral Research Ethics Board (BREB) and the Kwantlen Polytechnic University Ethics Board (REB). Both BREB and REB use the Tri-Council Policy Statement’s (TCPS 2) definition of “minimal risk” which is defined as “research in which the probability and magnitude of possible harms implied by participation in the research is no greater than those encountered by participants in those aspects of their everyday life that relate to the research” (Canadian Institute for Health Research, 2014, p. 22). From this perspective, this research is considered minimal risk. The participants in this study are adults and community members who are involved in the local food system. The survey and interview questions relate to their experiences in the local food system and their perspectives about the impact of local food systems in communities. These questions are about their everyday life and their lived experiences.

This research is funded and conducted under the Kwantlen Polytechnic University’s Institute for Sustainable Food Systems. The data collected during this research fulfills the master’s thesis project and also contributes to a larger project, The Okanagan Bioregion Food System Design Project (OBFSDP) being conducted by the ISFS. In the initial contact for participant recruitment, the consent form for the survey, and the consent form for the interview, I disclosed the funders of this research and specific purpose of their study.
In analyzing data, ethical issues can arise because I am the primary data collection instrument and data has to be filtered through my biases and theoretical position (Merriam and Tisdell, 2015). This means I could exclude any findings that are contrary to my views (Merriam and Tisdell, 2015), I may side with participants and disclosing only positive results (Creswell, 2014). To mitigate this potential, I reported multiple perspectives and contrary findings. Ethical issues also come up in dissemination of findings and reporting because this work is sponsored (Merriam and Tisdell, 2015). Typically, if the research is sponsored, the report goes to the sponsoring institution and the researcher loses control of the data and its use (Merriam and Tisdell, 2015). However, the final outcomes of this study as reported in this thesis will be as fully incorporated as possible in a report on the larger study not just select pieces of the findings. Additionally, I will be lead author of component in the larger study report that convey the findings of this particular element. Further, the full outcomes of this study will be reported in a refereed journal article.
Chapter 4: Results

4.1 Overview

This chapter presents the research results and is divided into three sections, based on the three phases of study; I- social capital literature review and baseline estimate; II- quantitative online survey; and III- semi-structured interviews. In section 4.2, I outline the results from the social capital indicator literature review and present the main indicators with a table (Table 2). This table constitutes the framework for estimating the baseline of community level social capital and informed development of the survey and interview questions. In section 4.3, I present the results from the quantitative survey from phase II of the research. In section 4.4 I present the results from the interview stage of the research with a table of major themes that emerged and key passages from participants. The objective of Chapter 4 is to present the results from all three phases of this study and explain how themes emerged. In Chapter 5 I discuss the meanings of the results from all three phases of the study and how they relate to the research questions. I conclude Chapter 5 with a brief summary of the research, explain limitations of this study, and make recommendations for future research.

4.2 Phase 1: Baseline Estimate of Social Capital

This section of the results chapter is divided into two parts. In the first section, I present the results of the literature review of social capital indicators (Table 2). I supplement this table with a discussion of the indicators of social capital. The framework is used assess and interpret the context of social capital in the case study communities. In the second section, I use this framework as a guide for reviewing secondary data sources to assess the existing level of social capital in the case study communities. I present the results from the secondary source review in Table 3 and I conclude with a brief summary of all the results.
4.2.1 Literature Review of Social Capital Indicators

This study addresses the impact that local food systems have on community level social capital. Because the topic is concerned with the relationship between local food systems and social capital, and how local food systems create or maintain social capital, a framework for conceptualizing social capital was created. First, I established a definition of social capital which guided the review of social capital indicators used for observing social capital in communities.

The concept of social capital has multiple origins, a wide range of meanings, and is considered a messy and contested concept (Fulkerson and Thompson, 2008). This research adopts Putnam’s view of social capital, who considers social capital as aspects of social organization, such as networks, norms, and trust which facilitate coordinated action (Fulkerson and Thompson, 2008; Putnam, 1995; Putnam, Leonardi, and Nanetti 1993). In this perspective, the ultimate outcome of social capital is improved societal efficiency through social connections (Fulkerson and Thompson, 2008; Putnam, Leonardi, and Nanetti 1993). For this study, I used a broad definition of social capital, defined as social networks, norms, trust and reciprocity, that facilitates collaboration between individuals and groups. This broad definition of social capital includes both cognitive and structural dimensions of social capital. Cognitive dimensions of social capital include values, attitudes, norms and beliefs (Krishna and Shrader, 2000) and perceptions of support, reciprocity, sharing and trust (Jones, 2005). Structural dimensions refer to networks (Krishna and Shrader, 2000; Verhaeghe et al., 2012) and intensity of activity and participation (Inaba et al., 2014; Jones, 2005). It is argued that including both dimensions of social capital is more appropriate for understanding social capital at the community scale (Inaba et al., 2014).

When using Putnam’s view of social capital (strong social connections, associated norms and trust facilitate collective action), the strength or levels of these indicators express the individual’s level of social capital (Ferragina et al., 2016; Putnam, 2000). Additionally, the
focus of this work is on community-level social capital, which is based on a collective of community member’s individual level social capital (Putnam et al., 2004). Individual level social capital can be used as a proxy for understanding community level social capital (Friedman and Fraser, 2015; Kim, 2006; Putnam et al., 2004) and this is commonly assessed through survey instruments (Chazdon et al., 2013; Grootaert et al., 2004; The World Bank, 2002).

I use this broad definition and the most common indicators of social capital found by Fulkerson and Thompson (2008) as a guide for reviewing the literature on how social capital is measured. After reviewing 240 journal articles published from 1988 to 2006 from both mainstream and specialty journals, Fulkerson and Thompson determined that the most common concepts of social capital are: networks, resources, relationships, trust, reciprocity, individuals, and norms (2008). I found the indicators of networks, trust, reciprocity, and engagement the commonly used for measuring social capital at multiple scales, ranging from national to individual scale. I discuss each of these indicators in depth below.

The concept of networks is frequently used in social capital definitions and is a common indicator for social capital measurement (Fulkerson and Thompson, 2008; Grootaert et al., 2004; Stanley et al., 2012). Broadly, networks refer to social networks and relationships between people (Fulkerson and Thompson, 2008; Putnam, 2000). Understanding the strength of social networks is the key to understanding networks as an indicator of social capital (Chazdon et al., 2013) and there are many methods for measuring the strength of social networks (Table 2). These methods for measuring the strength of social networks are discussed below and all were used in this research.

Considering the strength of both types of social network, “bonding” and “bridging” networks is important (Stone et al., 2003). Bonding networks refer to the strong connections with individuals with similar backgrounds who help in the daily process of getting by (Stanley et al., 2012). These connections are with family, friends and neighbors (Chazdon et al.,
Bridging networks constitute weaker social ties with more distant contacts. These networks help people get ahead by accessing resources and opportunities through these connections (Stanley et al., 2012). These connections are with work colleagues, acquaintances, and people associate with groups in the community (Stanley et al., 2012). Both bonding and bridging networks must be strong for communities to engage in effective community action (Flora, Flora and Gasteyer, 2004).

The strength of social networks can be understood through the frequency of contact one has with members in both their bonding and bridging social networks (Stanley et al., 2012). The more frequent the contact with members of one’s social network indicates strong connections (Chazdon et al., 2013; Stanley et al., 2012). The size of social network, indicated by the number of members in both the bonding and bridging social networks (Grootaert et al., 2004; Lui and Besser, 2003), is another method for measuring the strength of social networks. Whether or not one can access help through their social network is also a measurement of the strength of social networks (Kitchen et al., 2012). The more useful a social network is at providing resources for an individual in need, the stronger the social connection and the social capital is (Grootaert et al., 2004). This is assessed by understanding if individual can turn to members of their social network if they need help (Grootaert et al., 2004; Kitchen at al., 2012; Chazdon et al., 2013).

In social capital theory, trust is considered an important element of social capital (Chazdon et al., 2013; Lui and Besser et al., 2003) and is therefore a common social capital indicator. However, the concept of trust is abstract and can be difficult to measure (Grootaert et al., 2004). Social trust refers to the idea that for a modern society to adequately function, the existence of an environment where people have confidence in others and their institutions is needed (Ferragina, 2016). Different forms of trust have been measured, including general level of trust (Kitchen et al., 2012; Petzold, 2016), general level of trust in local community (Lui and Besser, 2003), level of trust in people of one’s social network, level
of trust in people of different social backgrounds, and levels of trust in community leaders and institutions (Chazdon et al., 2013; Ferragina, 2016). Higher levels of general trust relate to community involvement (Lui and Besser, 2003).

Reciprocity seemingly has many meanings in the social capital literature. It can refer to reciprocal action between individuals and groups (Adger, 2003), reciprocity of trust and shared values (Glowacki Dudka et al., 2013), and reciprocity of relationships (Bauermeister, 2016). Reciprocity is also discussed as not being separate from trust, but an element of trust (Bauermeister, 2016). Reciprocity appears in conceptualizations of social capital, but it is not as common as the indicators of networks and trust for measuring social capital. Levels of reciprocity can be determined if members in a community do favours for each other (Chazdon et al., 2013) or if they seek information from each other (Bauermeister, 2016).

The social capital indicator engagement refers to participation in civic life. Putnam (1993) refers to civic engagement as people’s connection with the life of their community and their participation in informal and formal civic and political institutions. Assessing engagement or participation is done by measuring the level of volunteerism and voter turnout (Thompson and Slaper, 2013), number of people in formal associations (Ferragina, 2016; Lui and Besser, 2003) or through the number of times individuals have joined together with others in community to address an issue (Chazdon et al., 2013). Lastly, norms are referenced frequently as an indicator of social capital and is closely linked to trust and reciprocity. Norms can mean norms of trust and reciprocity (Cambell, 2010), local norms of appropriate behavior and cooperation (World Bank Group, 2002), and norms of collective action (Lui and Besser, 2003). Lui and Besser (2003) assess norms by asking questions about expectations of community involvement. However, there is little additional research that describes how to observe norms as an indicator of social capital.
4.2.2 Framework for Conceptualizing Social Capital

The framework for conceptualizing social capital developed for this study (Table 2) is adapted from Bauermeister (2016), who created a framework for conceptualizing social capital and collective identity and included methods for measuring these concepts. The research that contributed to the creation of my framework were limited to those which suggested how indicators of social capital could be measured, or what variables were measured as proxy indicators of social capital. The framework presents the indicators of social capital that I used in analysis of social capital and the variables used to measure indicators of social capital.

Table 2: Framework for Conceptualization Social Capital

<table>
<thead>
<tr>
<th>Indicators of Social Capital</th>
<th>Source</th>
<th>Variables of Indicator</th>
</tr>
</thead>
</table>
| Social Networks             | Stanley et al, 2012 Chazdon et al., 2013 Grootaert et al., 2004 Ferragina 2016 Glowacki-Dudka et al., 2012 Bauermeister 2016 The World Bank, 2002 Lui and Besser, 2003 Kitchen et al., 2012 Campbell et al., 2010 Sseguya et al., 2018 | - **frequency of contact with network** (Stanley et al., 2012; Chazdon et al., 2013; Ferragina, 2016)  
- **size of network** (Grootaert et al, 2004; Lui and Besser, 2003; Sseguya et al., 2018)  
- **if network provides aid when needed** (Grootaert et al., 2004; Chazdon et al, 2013; Kitchen et al., 2012; Sseguya et al., 2018)  
- **importance attributed to social network** (Ferragina, 2016) |
- **trust in community members** (Chazdon et al, 2013; Petzold, 2016; Lui and Besser, 2003)  
- **trust in local institutions** (Chazdon et al, 2013; Petzold, 2016, Ferragina, 2016)  
- **trust in people of different backgrounds** (Chazdon et al., 2013) |
| Reciprocity     | Bauermeister et al., 2016  
|                 | Chazdon et al., 2013       |
|                 | - Do favours for one another (Chazdon et al., 2013)  
|                 | - Seeks information from one another (Bauermeister, 2016) |
| Engagement      | Ferragina 2016  
|                 | Thompson and Slaper 2016  
|                 | Chazdon et al., 2013  
|                 | Lui and Besser, 2003       |
|                 | - involvement of people in formal and informal associations (Ferragina, 2016; Lui and Besser, 2003)  
|                 | - volunteerism intensity (Thompson and Slaper, 2013)  
|                 | - Voter turnout (Thompson and Slaper, 2013)  
|                 | - Number of times joined together with others in community to address an issue (Chazdon et al., 2013)  
| Norms           | - Cambell, 2010  
|                 | - World Bank Group, 2002  
|                 | - Roseland, 2012  
|                 | - expectations of community involvement existing among residents and within local government and organizations (Lui and Besser, 2003) |

### 4.2.3 Baseline Assessment of Social Capital in Case Study Communities

A review of secondary sources was undertaken to ascertain a baseline level of social capital that exists in the case study communities. To understand the relationship between local food systems and social capital, and to observe change or make comparisons, such a baseline assessment is needed. I used the indicators of social capital previously identified (Table 2) to guide the review of secondary sources. The review revealed that community level and individual level social capital analysis had not been comprehensively estimated at either municipal or regional scales in the study area (Table 3). Several of the secondary sources reported measure of quality of life, which reflects social capital (Putnam, 2003). However, for these, the measure of ‘quality of life’ were not identified or based on usual indicators of social capital.
<table>
<thead>
<tr>
<th>Document and Year</th>
<th>Information</th>
<th>Data</th>
<th>Indicator of Social Capital</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Vernon:</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Vernon Settlement Plan 2015</td>
<td>Survey of Newcomers and Immigrants</td>
<td>Rated Opportunities for Social Engagement as 3.2/5</td>
<td>Not applicable</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>* supports more locations for social connection</td>
</tr>
<tr>
<td>RDNO Monitoring and Evaluation Report 2013</td>
<td>2013 Quality of Life Survey results</td>
<td>Quality of North Okanagan as a place to live rated in between “good” and “very good”</td>
<td>n/a</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>* Quality of Life measured through the quality of the North Okanagan as a place to live, work, play, raise a family and retire.</td>
</tr>
<tr>
<td>North Okanagan Vital Signs Report 2017</td>
<td>Highlights 10 issues that contribute to community vitality</td>
<td>Indicators for issue of Belonging and Leadership: Volunteer recruitment Sense of Community Belonging Charitable donations Voter Turnout</td>
<td>Engagement</td>
</tr>
</tbody>
</table>

<p>| <strong>Kelowna:</strong>      |             |      |                            |
| City of Kelowna Strong Neighborhoods Program 2013 | 2013 Project community engagement survey | 82% of 639 respondents were satisfied with their level of interaction with their neighbors Those unsatisfied indicated they wished they knew their neighbors better | n/a |
|                   |             |      | *program support initiatives to connect people in community |
| Kelowna Citizen Survey 2018 | Quality of Life Survey results | 36% rated very good, 58% rated good decreasing QOF and new low since 2012 | n/a |
|                   |             |      | *Quality of Life measures through the overall quality of life in Kelowna |
| Imagine Kelowna 2018 Report | Community Vision from 4000 Kelowna residents | Goals include creating public space where people connect | n/a |
|                   |             |      | * supports more locations for social connection |
| City of Kelowna Social Framework 2012 | Outlines role the City of Kelowna plays in social sustainability through its infrastructure social policies and programs | Lists policies, programs and services for community engagement and empowerment | n/a |
|                   |             |      | * supports more locations for social connection |</p>
<table>
<thead>
<tr>
<th>Central Okanagan Vital Signs Report</th>
<th>Focus on five thematic areas: secure, healthy, smart, creative and connected</th>
<th>Indicators for Connected: Sense of belonging, Charitable donations, Connecting neighbours, Connecting cultures, Voter turnout, Volunteerism</th>
<th>Engagement Social Networks</th>
</tr>
</thead>
</table>

**Osoyoos:**

| 2018 Town of Osoyoos Town Centre Renewal Plan | Guideline for future decisions and renewal plan for Osoyoos Town centre | Strategy includes creating Conversation Corners to facilitate more meeting places informal conversations | n/a |

| 2018 South Okanagan Similkameen Vital Signs Report | Addresses 10 key issues affecting well-being of communities, each issues rated through survey responses | Survey response on issues of Belonging and Leadership say most people felt connected to community | Engagement |

*Indicators of belonging and Leadership: Voter Turnout, Charitable donations, Number of members of the Penticton Seniors Drop in Centre |

| 2018 RDOS Strategic Plan | Outlines trends that will affect development of the Strategic Plan | Volunteerism is on a downward trendline | n/a |

*source for this data not included |

**Keremeos**

| 2013 Citizen Survey | Quality of Life Survey results | 30.08% of respondents rated quality of life as very good, 36.09% rated as good | n/a |

*Quality measured through overall quality of life in Keremeos, as a place to raise children, as a place to retire |

| 2018 Village of Keremeos Age-Friendly Action Plan | Age-friendly elements for an age-friendly community include social inclusion, social participation, and civic participation | Summarizes where Keremeos is in regard to age-friendly elements/facilities and organizations that support these elements | n/a |

*does not include measurements of elements (rate of social inclusion, etc.) |

The Community Vital Signs reports created by different Community Foundations within the Okanagan Bioregion provided the most succinct assessments of community level social capital for the region (Table 4). These report on measures of quality of life are derived from surveying residents (North Okanagan Community Foundations, 2017). What is
measured depends on the key issues focused on for each assessment report year. For example, the 2017 North Okanagan Vital Signs report addressed the issue of “belonging and leadership” and used indicators of volunteerism, charitable giving, voter turnout, and sense of community belonging (North Okanagan Community Foundation, 2017). In the Central Okanagan Vital Signs report, five thematic areas were addressed including whether there is a sense of connectedness among residents, measured through sense of belonging, charitable donations, connecting with neighbors, connecting with cultures, voter turnout, volunteerism, and life satisfaction (Central Okanagan Community Foundation, 2015). The South Okanagan Similkameen Vital signs reports utilized similar indicators for assessment of “belonging and leadership” (South Okanagan Community Foundations, 2018).

Volunteerism and voter turnout indicators, contained in all three reports reviewed, are aspects of the social capital indicator engagement. Volunteerism was measured through the number of volunteers or volunteer hours at community centres, and volunteer services organizations, and therefore may not have been a fulsome assessment. For voter turnout assessment, the North Okanagan and South Okanagan-Similkameen Vital Signs reports used 2015 federal election data while the Central Okanagan Vital signs report used 2014 municipal elections. While this data is helpful for social capital estimation, it alone cannot be used to establish a baseline understanding of social capital because it is not a commonly used indicator of social capital and has not been used as a sole indicator of social capital in any previous study found. Sense of belonging was another measure of community quality of life in the Vital Signs reports, which is related to social capital (Stanley et al., 2012), but again, not a direct indicator of social capital. Further, the assessment was based on data from The Okanagan Service Delivery Area which comprises the whole Okanagan and Similkameen region, rather than specific case study communities.

The Vital Signs reports provide a snapshot of the vitality of the community based on indicators of social capital and community sense of belonging. The data used for the
indicators of community vitality are useful for the indicator of social capital called engagement. Again, these reports present data at a regional scale, the dates of the reports are inconsistent with each other, and only inform the engagement indicator of social capital, which doesn’t provide a full understanding of the level of social capital in the case study communities.

**Table 4: Indicators of Social Capital derived from Community Vital Signs**

<table>
<thead>
<tr>
<th>Source</th>
<th>Year</th>
<th>Data</th>
<th>Indicator of Social Capital</th>
</tr>
</thead>
</table>
Voter Turnout: 71.9% of voters in NO cast vote in 2015 federal election | Engagement                  |
| Central Okanagan Vital Signs Report | 2015 | Volunteerism: in 2014, 128 Volunteers donated 4816 hours to Peachland Wellness Centre  
Voter Turnout: 2014 Municipal election voter turnout compared to 2011 (5% decrease in Lake country, 2.7% decrease in Kelowna, 3% increase in Peachland and 6% increase in West Kelowna) | Engagement                  |
| South Okanagan Similkameen Vital Signs Report | 2018 | Voter Turnout: 2015 Federal election for cities, towns and villages in Regional District of South Okanagan Similkameen | Engagement                  |

Statistics Canada’s annually issues General Social Survey reports on measures of social capital (Table 5) focusing on a single topic (Statistics Canada, 2019). Topics related to social capital include; social identity; giving, volunteering, and participation; and life at work and home. Topics are cycled as foci of the survey every five to seven years. Social identity was a key topic in the 2013 General Social Survey and the report included data on number of close friends and close relatives, number of acquaintances, frequency of contact with close friends and relatives which are all of which are useful for measuring the social capital indicator social networks. A second key topic measured in the 2013 General Social Survey
was rates of giving, volunteering, and participating all of which measure the social capital indicator of engagement. The key topic life at work and home was the focus in the 2016 survey. It sought to assess life satisfaction based on multiple dimensions including personal relationships and feeling part of one’s community. Personal relationships relate the indicator of social networks. Feeling part of one’s community, or community sense of belonging, is also related to social capital (Stanley et al., 2012).

These data are valuable for estimating levels of social capital but not for this research as they are reported at the provincial level and municipal or regional level data was not accessible. Therefore, these data could not be used to gain understanding of the baseline level of social capital in the case study communities.

**Table 5: Review of Social Capital indicators in Statistics Canada Reports**

<table>
<thead>
<tr>
<th>Source and Date</th>
<th>Data</th>
<th>Scale</th>
<th>Indicator of Social Capital</th>
</tr>
</thead>
<tbody>
<tr>
<td>2013 General Social Survey – Giving,</td>
<td>Volunteer rate</td>
<td>Provincial - British</td>
<td>Engagement</td>
</tr>
<tr>
<td>Volunteering and Participating Topic</td>
<td>Average annual volunteer hours</td>
<td>Columbia</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2013 General Social Survey – Social</td>
<td>Number of Close Relatives</td>
<td>Provincal - British</td>
<td>Social Networks</td>
</tr>
<tr>
<td>Identity Topic</td>
<td>Number of Close friends</td>
<td>Columbia</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Number of acquaintances</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Frequency of in-person contact with</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>relatives/friends</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2016 General Social Survey – Canadians</td>
<td>Average satisfaction with life and selected</td>
<td>Provincial - British</td>
<td>Social Networks</td>
</tr>
<tr>
<td>at Work and Home Topic</td>
<td>domains of life: Personal relationships,</td>
<td>Columbia</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Feeling part of the community</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2018 Canadian Community Health</td>
<td>Community Sense of Belonging</td>
<td>British Columbia</td>
<td>n/a</td>
</tr>
<tr>
<td>Survey</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Overall, the information from the secondary sources identified and reviewed provide insufficient information to infer a baseline level assessment of social capital in the case study communities. There was not enough data, or data at the appropriate scale to confer understanding of the existing levels of social capital in the study area. I acknowledge that the insufficient data and hence outcomes for this part of my study are not what I expected and highlights the need for more research on social capital in this area. In order to fully understand the baseline level of social capital it would require doing a social capital survey with an appropriately sized and randomly selected sample of community members of the case study communities.
4.3 Phase 2: Online Descriptive Survey

A total of 151 survey responses were recorded with 105 complete surveys submitted (N=105). Incomplete surveys having partial responses were not used in these findings as a sample size is considered robust for both grounded theory methodology and case study research design (Creswell, 2014). Due to the survey being distributed by third parties through their confidential member email list it is impossible to ascertain the number of people contacted to participate in the survey. Therefore, a response/non-response rate and response bias cannot be determined (Creswell, 2014).

The rate of response reflects relative population density of the four study communities (Table 6): 55 (52.4%) respondents are from Central Okanagan; 30 (28.6%) responses are from North Okanagan; 15 (14.3%) from are South Okanagan, and 5 (4.8%) are from Similkameen Valley. It is notable that of the three districts comprising the Okanagan Bioregion, the South Okanagan and Similkameen, with the smallest population but, proportionately, the largest number of people working in agriculture, forestry, fishing and hunting, had the least number of respondents.

Table 6: Survey participant breakdown for each case study area in the Bioregion compared to demographic characteristics. Source: Statistics Canada, 2017a, 2017b, 2017c.

<table>
<thead>
<tr>
<th>Case study area in the Okanagan bioregion</th>
<th>Number of Participants</th>
<th>Population Density in Regional District</th>
<th>Number of People working in agriculture, forestry, fishing, and hunting</th>
</tr>
</thead>
<tbody>
<tr>
<td>Central Okanagan (Kelowna, West Kelowna, Lake Country, Oyama, Peachland)</td>
<td>55</td>
<td>194, 882</td>
<td>2235</td>
</tr>
<tr>
<td>North Okanagan (Vernon, Armstrong, Lumby, Lavington)</td>
<td>30</td>
<td>84, 354</td>
<td>2270</td>
</tr>
<tr>
<td>South Okanagan (Penticton, Oliver, Osoyoos, Summerland)</td>
<td>15</td>
<td>83, 022*</td>
<td>2900*</td>
</tr>
<tr>
<td>Similkameen (Keremeos, Princeton, Hedley, Cawston)</td>
<td>5</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>TOTAL</strong></td>
<td><strong>105</strong></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

* data is retrieved from the Regional District of the South Okanagan Similkameen and encompasses both case study areas.
The results from the survey are presented in five sections each corresponding to the categories of questions found in the survey. These sections are: 1) respondent’s role and experience in the local-regional food system; 2) social capital baseline; 3) perception of local food systems; 4) perception of local food systems and social capital and; 5) future understanding of local food systems and social capital.

4.3.1 Participant Role and Experience in Local Food Systems

Survey participants included a wide range of local food system actors (Figure 2). Respondents identified their role in the local food system by selecting, from a list, up to three different roles they identified with. The role most selected is local food consumer, N= 69 (65.7%) respondents, followed by home gardener (N=40, 38.1%), other (N=23, 21.9%), local food producer (N=22, 20.9%), local food system activist (N=20, 19.1%), local food retailer (N=13, 12.4%), local food processor (N=11, 10.5%), local restaurant/food service (N=6, 5.71%), local food system educator (N=5, 4.76%), urban farmer (N=4, 3.81%), and local food distributor (N=3, 2.86%). The “other” category solicited open responses which included hunters, specific agriculture related professional roles, holistic nutritionists, researchers, and foragers. A large portion of respondents (N=70, 67% of participants) identified with multiple roles in the food system and the majority of participants were local consumers (N= 69, 65.7%).

It is important to note that a shortcoming of this survey is that it excluded an option to select "indigenous food system ways" as a role in the local food system. This was an oversight in survey design and an unintentional result of the sampling strategy. Additionally, community members who are not involved in the local food system were not included in the sample and this constitutes a selection bias. I acknowledge that the lack of indigenous perspectives in this research, and the exclusion of community members in the sample, are major limitations of this study. I discuss this is further in Chapter 5, section 4: Limitations.
To further understand participant roles and experience in the local food system, participants were asked how often they participate in the roles they selected in the previous question. The objective of this questions was to understand the frequency of interaction participants have with the local food system. Participants selected how often they perform their roles over a range of frequencies, ranging from every day to less often than once per year. Table 7 summarizes the data from this question.

Responses indicated that most self-identified roles are performed on a fairly frequent basis (daily, 2-3 times per week, or once per week). Local food processor, local food retailer, local food processor, local food distributor, local food service and home gardener are the most frequent roles performed in the local food system, with the majority of participants who selected those roles indicating they participate in them on a daily basis (shaded dark grey). The majority of survey respondents were local food consumers (N=69, 65.7%) but this role is performed less frequently.
Table 7: Frequency of Roles Performed by Survey Respondents in their Local Food System.

Shaded areas are top values with dark grey shaded areas indicating the most frequent roles performed. Percentages are based on the total respondents that selected that role.

<table>
<thead>
<tr>
<th>Role</th>
<th>Daily</th>
<th>2-3 times per week</th>
<th>Once a week</th>
<th>2-3 times per month</th>
<th>Once per month</th>
<th>2-3 times per year</th>
<th>Once per year</th>
<th>Less often than once per year</th>
<th>Total Respondents that selected the role</th>
</tr>
</thead>
<tbody>
<tr>
<td>Producer</td>
<td>15</td>
<td>68.2%</td>
<td>6</td>
<td>27.3%</td>
<td>1</td>
<td>4.5%</td>
<td>-</td>
<td>-</td>
<td>22</td>
</tr>
<tr>
<td>Retailor</td>
<td>8</td>
<td>61.5%</td>
<td>2</td>
<td>15.4%</td>
<td>3</td>
<td>23.1%</td>
<td>-</td>
<td>-</td>
<td>13</td>
</tr>
<tr>
<td>Processor</td>
<td>5</td>
<td>45.5%</td>
<td>4</td>
<td>36.4%</td>
<td>-</td>
<td>1</td>
<td>36.4%</td>
<td>-</td>
<td>11</td>
</tr>
<tr>
<td>Distributor</td>
<td>2</td>
<td>66.7%</td>
<td>0</td>
<td>0.0%</td>
<td>-</td>
<td>-</td>
<td>1</td>
<td>33.3%</td>
<td>3</td>
</tr>
<tr>
<td>Educator</td>
<td>1</td>
<td>20.0%</td>
<td>1</td>
<td>20.0%</td>
<td>1</td>
<td>20.0%</td>
<td>-</td>
<td>1</td>
<td>5</td>
</tr>
<tr>
<td>Activist</td>
<td>4</td>
<td>20.0%</td>
<td>2</td>
<td>10.0%</td>
<td>2</td>
<td>10.0%</td>
<td>7</td>
<td>35.0%</td>
<td>20</td>
</tr>
<tr>
<td>Local Food Service</td>
<td>5</td>
<td>83.3%</td>
<td>1</td>
<td>16.7%</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>6</td>
</tr>
<tr>
<td>Urban Farmer</td>
<td>1</td>
<td>25.0%</td>
<td>1</td>
<td>25.0%</td>
<td>1</td>
<td>25.0%</td>
<td>-</td>
<td>1</td>
<td>4</td>
</tr>
<tr>
<td>Home Gardener</td>
<td>22</td>
<td>55.0%</td>
<td>12</td>
<td>30.0%</td>
<td>2</td>
<td>5.0%</td>
<td>2</td>
<td>5.0%</td>
<td>40</td>
</tr>
<tr>
<td>Local food consumer</td>
<td>7</td>
<td>10.1%</td>
<td>31</td>
<td>44.9%</td>
<td>24</td>
<td>34.8%</td>
<td>4</td>
<td>5.8%</td>
<td>69</td>
</tr>
<tr>
<td>Other</td>
<td>4</td>
<td>25.0%</td>
<td>5</td>
<td>31.2%</td>
<td>3</td>
<td>18.8%</td>
<td>2</td>
<td>12.5%</td>
<td>16</td>
</tr>
</tbody>
</table>

Total of Frequency Selected    | 74    | 65                  | 37          | 17                  | 8              | 6                  | 1             | 1                              |

Experience in the local food system was also evaluated by the number of years respondents have been involved in the local food system. Participants have a broad range of experience in the local food system (Figure 3). Sixty-five participants (61.9%) selected they have 10 or more years of experience in local food system, with 38 of those participants indicating they have 20 or more years of experience. Forty participants (38.1%) have less than 10 years of experience in the local food system. Thus, well over half of respondents (61.9%) reported long-term (over 10 years) involvement in their local food system.
4.3.2 Baseline Level of Participant’s Social Capital

This section in the survey comprised nine questions intended to measure indicators of social capital (Table 8) adapted from social capital surveys used in other studies (Grootaert et al., 2004; Chazdon et al., 2013; Ferragina, 2016) and establish a baseline level of social capital among local food system respondents in the study communities.

Table 8: List of Questions in the Descriptive Survey that Measure Different Variables of Social Capital Indicators.

<table>
<thead>
<tr>
<th>Survey Question</th>
<th>Variable</th>
<th>Social Capital Indicator</th>
</tr>
</thead>
<tbody>
<tr>
<td>5. How would you quantify the number of members in your local/regional food system social network?</td>
<td>Size of social network</td>
<td>Social Networks</td>
</tr>
<tr>
<td>6. In general, you can count on someone in your local/regional food system to help you if you need some extra help?</td>
<td>Social network provides help when needed/quality of network</td>
<td>Social Networks</td>
</tr>
<tr>
<td>7. What is the frequency of contact you have with members of your regional/local food system network?</td>
<td>Frequency of contact with social network</td>
<td>Social Networks</td>
</tr>
<tr>
<td>8a. In general, most people can be trusted.</td>
<td>General sense of trust</td>
<td>Trust</td>
</tr>
<tr>
<td>8b. It is important to feel part of the local/regional food system community.</td>
<td>Importance attributed to social network/community</td>
<td>Social Networks</td>
</tr>
<tr>
<td>8c. In general, you feel part of your local/regional food system community.</td>
<td>Sense of community</td>
<td>Sense of Community</td>
</tr>
<tr>
<td>8d. You and others in your local/ regional food system community do favors for each other.</td>
<td>Sense of reciprocity between members</td>
<td>Reciprocity</td>
</tr>
<tr>
<td>9. Have you ever partnered or worked together with others in your local/regional food system community to address an issue? How many times?</td>
<td>Volunteerism, involvement in formal associations, sense of engagement in local food systems</td>
<td>Engagement</td>
</tr>
</tbody>
</table>
The first question assessed participants’ local food system social network. Respondents indicated a range of social network sizes created through the local food system (Figure 3). A large number of respondents (N= 76, 72.4%) indicated they had over 10 members in their social network, and 36 (34.2%) respondents had 50 or more members in their social network. Twenty-nine respondents (27.6%) indicated having 10 or less members in their social network. Thus, three quarters of respondents had established fairly large social networks through their participation in their local food system.

![SIZE OF LOCAL FOOD SYSTEM NETWORK](image)

**Figure 4: Number of members survey participants have in their local food systems social networks.**

The second question assessed the quality of participant’s social network determined by whether or not respondents thought members of their local food system social networks would help them. Eighty-three participants (82.0%) indicated (strongly agreed, agreed or somewhat agreed) that they could count on someone in their local food system social network to help them if they needed some extra help (Figure 5). Very few participants (5.7%) disagreed that they can count on someone in their social network to help them and 13 participants (12.4%) neither agreed or disagreed. Therefore, a majority of participants (82.0%) have good quality social networks in their local food system.
The next question estimated the frequency of contact respondents had with members of their local food system social network. Examples included meeting in-person, phone call, email, and text messages. Sixty-eight respondents (64.8%) indicated frequent contact with the members of their social network (Figure 6): twenty-two (21.1%) respondents indicated they contact members of their social network every day; twenty-seven (25.7%) responded a couple times per week; and nineteen (18.1%) selected once per week. Thirty-seven respondents (35.2%) selected ranges indicating less frequent contact: twenty (19.0%) selected a couple times per month; 5 (4.8%) selected once per month; 9 (8.6%) selected a few times per year; 1 (0.9%) selected once per year; and 2 (1.9%) selected less than once per year. Overall, two thirds of respondents are in frequent contact (everyday, couple times per week, once per week) with member of their social network and one third are in less frequent contacts (once a month, a couple times per year, once per year or less than once per year.

**Figure 5: Quality of the social network indicated by participant's perspective on whether or not they can count on someone in their local food system social network to help them if they needed.**
Figure 6: Frequency of contact survey participants have with members of their local food system social network.

The next question in this section of the survey was a four-part question the results of which are presented in Table 9. The first part evaluated the social capital indicator of trust. The majority of respondents (87.6%) affirmed (strongly agree, agree, somewhat agree) that in general, most people in their local food system network can be trusted (Table 9 Column 2). Six participants (5.7%) disagreed and 5 participants strongly disagreed that in general, people can be trusted. The next part of the question assessed the indicator of social networks by determining the importance participants attribute to their local food system community. The majority of respondents (91.4%) agreed that it is important to feel part of the local food system community (Table 9 column 3). Only 3 participants (2.9%) disagreed and 6 participants (5.7%) neither agreed or disagreed that it is important to feel part of the local food system community.

Feeling a part of the local food systems indicates a participant’s sense of belonging and sense of community (Stanley et al., 2012). Ninety-five participants (90.5%) agreed that they felt part of their local food system community (Table 9 column 4). Six participants...
(5.7%) disagreed and 5 participants (4.8%) neither agreed or disagreed that they felt part of their local food system community.

The final question evaluated the indicator reciprocity by asking whether or not local food system actors do each other favours. Seventy-eight respondents (74.3%) agreed that they and others in their local food system community do favours for each other. However, the degree of agreement varied: 21 (20.0%) strongly agreed; 32 (30.5%) agreed and 25 (23.8%) agreed somewhat. Eight respondents (7.6%) disagreed and 19 respondents (18.1%) neither agreed or disagreed.

Table 9: Participants Responses to Survey Questions 8a, 8b, 8c, and 8d.

<table>
<thead>
<tr>
<th></th>
<th>8a. In general, most people can be trusted.</th>
<th>8b. It is important to feel part of the local/regional food system community.</th>
<th>8c. In general, you feel part of your local/regional food system community.</th>
<th>8d. You and others in your local/regional food system community do favors for each other.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Strongly Agree</td>
<td>18 (17.1%)</td>
<td>39 (37.1%)</td>
<td>26 (24.8%)</td>
<td>21 (20.0%)</td>
</tr>
<tr>
<td>Agree</td>
<td>62 (59.0%)</td>
<td>49 (46.7%)</td>
<td>45 (42.9%)</td>
<td>32 (30.5%)</td>
</tr>
<tr>
<td>Somewhat agree</td>
<td>12 (11.4%)</td>
<td>8 (7.6%)</td>
<td>24 (22.9%)</td>
<td>25 (23.8%)</td>
</tr>
<tr>
<td>Neither agree or disagree</td>
<td>7 (6.7%)</td>
<td>6 (5.7%)</td>
<td>5 (4.8%)</td>
<td>19 (18.1%)</td>
</tr>
<tr>
<td>Somewhat disagree</td>
<td>-</td>
<td>-</td>
<td>1 (.95%)</td>
<td>4 (3.8%)</td>
</tr>
<tr>
<td>Disagree</td>
<td>1 (.95%)</td>
<td>1 (.95%)</td>
<td>2 (1.9%)</td>
<td>3 (2.9%)</td>
</tr>
<tr>
<td>Strongly disagree</td>
<td>5 (4.8%)</td>
<td>2 (1.9%)</td>
<td>2 (1.9%)</td>
<td>1 (.95%)</td>
</tr>
</tbody>
</table>

The last question in this section of the survey aimed to get a sense of the level of community engagement local food system actors have in their community, asking if respondents have partnered or worked together with others in their local food system community on a shared endeavor or issue. This includes whether or not they have engaged in activism, formed or joined a group around an issue, created a petition, or participated in a food-related forum or conference. Fifty-eight (55.2%) participant indicated yes, they had worked with others to address an issue, and forty-seven (44.8%) of participants indicating no, they had not. Those respondents that indicated they had engaged with the community in...
any of these ways, specified how many times they had done so. Respondents gave numeric or descriptive responses to the number of times they have partnered or worked together with others in their local food system community to address and issue (Table 10).

**Table 10: Summary of Responses for the amount of times participant's joined with others in their local food system to address an issue.**

Both numeric and descriptive responses are given and total in columns indicate number of times each response was given. Similar responses are grouped together in rows.

<table>
<thead>
<tr>
<th>Numeric Answers</th>
<th>Total</th>
<th>Descriptive Answers</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Once</td>
<td>3</td>
<td>“Few times, usually about animal abuse”</td>
<td>1</td>
</tr>
<tr>
<td>Twice</td>
<td>6</td>
<td>“Approximately once a year”</td>
<td>1</td>
</tr>
<tr>
<td>Three or Four times</td>
<td>4</td>
<td>“once or twice a year for the last five years”</td>
<td>2</td>
</tr>
<tr>
<td></td>
<td></td>
<td>“A couple times per year on issues important to us”</td>
<td></td>
</tr>
<tr>
<td>Five or six times</td>
<td>9</td>
<td>“Monthly”</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td></td>
<td>“Monthly for meetings and project updates, belong to active non-profit groups”</td>
<td></td>
</tr>
<tr>
<td>7 times</td>
<td>2</td>
<td>“several times a month”</td>
<td>1</td>
</tr>
<tr>
<td>10 times</td>
<td>5</td>
<td>“many! I don’t know how to quantify this. If I count big initiatives, perhaps three?”</td>
<td>4</td>
</tr>
<tr>
<td></td>
<td></td>
<td>“Many times. I can't count”</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>“many times.”</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>“Many times.”</td>
<td></td>
</tr>
<tr>
<td>15 times</td>
<td>2</td>
<td>“Too many to count”</td>
<td>2</td>
</tr>
<tr>
<td></td>
<td></td>
<td>“Too Many”</td>
<td></td>
</tr>
<tr>
<td>20 times</td>
<td>3</td>
<td>“I've worked on local ag/water issues many times over the years. Can't even count them”</td>
<td>1</td>
</tr>
<tr>
<td>30 times</td>
<td>1</td>
<td>“Hard to put a number but over many years, including workshops, supplying food bank, etc, perhaps more than 100”</td>
<td>1</td>
</tr>
<tr>
<td>40 times</td>
<td>1</td>
<td>“As president of the Shuswap Food Action Co-Op (now a society) for many years I've worked with various groups promoting ‘local’”</td>
<td>1</td>
</tr>
<tr>
<td>100 or more times</td>
<td>1</td>
<td>“I have been involved in a collaborate environment at all levels of government supporting entrepreneurship amongst agriculture and value-added sector. I have worked on this over the last several years”</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td></td>
<td>“Constantly as Chair of Central Okanagan Community Gardens”</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td></td>
<td>“daily”</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td></td>
<td>“Belong to active non-profit groups”</td>
<td>1</td>
</tr>
<tr>
<td><strong>Total Numeric Answers</strong></td>
<td><strong>37</strong></td>
<td><strong>Total Descriptive Answers</strong></td>
<td><strong>21</strong></td>
</tr>
</tbody>
</table>

Numeric answers range from participants working with others in their local food system community once to 100 times. Descriptive answers range from participants working with others a few times to constantly. Participants that have worked with others in their local food system community 5 times or more (24 respondents), or who have worked together with others on a monthly or more frequent basis (17 respondents), are considered to be very engaged in their community (Chazdon et al., 2013). Therefore, 70.7% of respondents stating
they have worked together with others in their local food systems are considered very engaged in their local food system community.

4.3.3 Participant’s Perspectives on Local Food Systems

The next category of questions in the survey included three questions which aimed to elucidate respondent’s perspectives and opinions about their local food system in the Okanagan Bioregion. Further, these questions were used to understand how respondents define their local food system and what role local food systems plays in their communities. Figure 7 presents a word cloud developed from the results of an open-ended question that asked participants to, in no more than five words, describe their local food system. The most frequent words used by participants are: healthy, fresh, community, sustain, quality, organic, friendly and abundant.

Figure 7: Word Cloud generated from words survey respondents used to describe the local food system. The larger the word, the more frequently it was used by participants.
From a list of thirteen factors provided, survey respondents chose five factors of the local food system (e.g. actors, distribution models, infrastructure, activities, etc.) that they felt are the most important contributors to their local food system. The factors most selected by respondents were: local food producers (84.6% of participants selected this factor), farmers markets (76.0%), retail stores that sell local food (68.3%), community supported agriculture (49.0%), and home/personal gardens (39.4%) (Table 11).

**Table 11: Top Factors of Survey Participant’s Local Food System.**
All the factors that contribute to the local food system shown, with the 5 most selected factors in bold italics on the right.

<table>
<thead>
<tr>
<th>Local Food System Factors</th>
<th>Number of Participants that selected factor</th>
</tr>
</thead>
<tbody>
<tr>
<td>Farmers markets</td>
<td>79 (76.0%)</td>
</tr>
<tr>
<td>Community gardens</td>
<td>20</td>
</tr>
<tr>
<td>Home/personal gardens</td>
<td>41 (39.4%)</td>
</tr>
<tr>
<td>Urban gardens</td>
<td>9</td>
</tr>
<tr>
<td>Community Support Agriculture/Local Food Boxes</td>
<td>51 (49.0%)</td>
</tr>
<tr>
<td>Local food producers (farmers and artisans)</td>
<td>88 (84.6%)</td>
</tr>
<tr>
<td>Fruit stands</td>
<td>29</td>
</tr>
<tr>
<td>Retail stores that sell local food</td>
<td>71 (68.3%)</td>
</tr>
<tr>
<td>Local Restaurants</td>
<td>33</td>
</tr>
<tr>
<td>Local food system educators</td>
<td>25</td>
</tr>
<tr>
<td>Local food system planners and policy makers</td>
<td>32</td>
</tr>
<tr>
<td>Local food system advocacy groups</td>
<td>29</td>
</tr>
<tr>
<td>Other</td>
<td>6</td>
</tr>
<tr>
<td><strong>Total Participants</strong></td>
<td><strong>105</strong></td>
</tr>
</tbody>
</table>

Lastly, participants were asked to rate the general effect that local food systems have on their community. The purpose of this question was to allow for all perspectives to be expressed on the effect that local food have on communities, including negative ones. Figure 8 shows that a majority of respondents (97.1%) rated the effect of local food systems on their community as positive (very positive and positive). Eighteen participants (17.1%) rated it somewhat positive, 2 (1.9%) rated it neither positive or negative and 1 participant (0.9%) rated it as negative.
The Connection Between Social Capital and Local Food Systems

The objective of the next question in the survey was to determine if respondents believe participating in local food systems impacts social capital. They were asked if participating in local food systems (e.g. farming, producing local food, processing local food, distributing local food, buying local food, advocating for local food, or educating about local food) facilitates building relationships and connections. They were also asked if participating in local food systems builds trust and reciprocity between community members and groups. The majority (81.0%) agreed (strongly agree and agree) that participating in local food systems builds relationships and connection between community members and groups (Figure 9). Slightly fewer respondents (73.3%) agreed (strongly agree and agree) that local food systems create trust and reciprocity between community members and groups. Only 2 respondents (1.9%) disagreed with both statements.
Figure 9: Participants response on the impact of local food systems on two indicators of social capital: social networks and trust

4.3.5 Social Capital under Future Food System Scenarios

The last category of questions in the survey asked participants if indicators of social capital would change under various future scenarios for the local food system in the Okanagan Bioregion. The objective of these questions was to further understand if participants perceived a relationship between local food systems and indicators of social capital, and to determine the attributes in the local food system that they perceive contribute to social capital.

The first question evaluated the impact that local food system scenarios have on the social capital indicator - social networks. Respondents were asked if described future scenarios would impact the number of members in their local food system social network (Table 12). The first scenario is a ‘business as usual’ scenario, where no additional land is converted for food production, a few export crops dominate, the population increases, and therefore, the community becomes less food self-reliant more dependent on imported food.
In the second scenario, available land for food production is devoted to satisfy local food demand. The third scenario is same as scenario two, except there is an added element of land stewardship; land is also set aside to protect natural resources, wildlife and habitat. In scenario four, significant portions of food lands are devoted to the production of non-food agriculture commodities such as wine grapes and cannabis.

In the first scenario, 68 survey participants (64.8%) indicated the number of members in their local food system social network would be less (much less, moderately less, and slightly less). Eighteen participants (17.1%) responded the number would be about the same, and nineteen participants (18.1%) indicated that the number would be more (slightly more, moderately more, much more). For the second scenario, 2 participants (2%) responded that the number of members in their local food system social network would be less, eighteen participants (17.1%) indicated the number would stay the same and eighty-five participants (81.0%) selected that the number would be more. Under scenario 3, 4 participants (3.8%) indicated the number of connections in their local food system social network would be less, eighteen participants (17.1%) selected the number would stay the same, and eighty-two participants (78.1%) indicated that the number would be more. Lastly, in scenario four, 53 participants (50.5%) selected that the number of connections in their food systems social network would be less, 21 participants (20%) responded that they would be about the same and 31 participants (29.5%) indicated that the number of connections would be more.

Table 12: Future Food System Scenarios and the Change in Social Networks: Participant responses on the quantity of members in local food system social networks under 4 future scenarios for local food systems.

| Scenario 1 - No additional land is converted for food production and the population continues to increase. The | Scenario 2 - Land available for food production is converted and used for | Scenario 3 - Land available for food production is converted, is used to produce food and land is also set aside to | Scenario 4 - Land available for food production is converted to non-food agriculture including wine grape production. |
For the scenarios two and three, in which the availability of local food increases participants indicated (81.0% and 78.1% of participants respectively) that the number of members in their local food systems social network would be more. In the first scenario, where the production of food for a local food system remains the same as current levels while the population increases and there is a resultant increased dependence on imported food, 64.8% (N=68) respondents indicated that the number would be lessened. Compared to scenario four, where significant portions of the agriculture land base is used to produce non-food crops (reducing local food production capacity), slightly fewer participants (50.5%) believe the number of members in their local food systems social network would be lessened. In scenario 4, land available for food production is converted to other agricultural purposes (wine grape production, cannabis production and processing, hops and grain production for alcoholic beverages). This may suggest that the inclusion of non-food agriculture with local food agriculture may not greatly impact local food system actor’s potential for social capital development.

<table>
<thead>
<tr>
<th></th>
<th>community becomes less food self-reliant and more dependent on imported food.</th>
<th>food production.</th>
<th>protect natural resources, critical wildlife habitat, and species at risk.</th>
<th>cannabis production and processing, hops and grain production for alcohol.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Much less</td>
<td>30.5%</td>
<td>32</td>
<td>0.0%</td>
<td>1.9%</td>
</tr>
<tr>
<td>Moderately less</td>
<td>21.0%</td>
<td>22</td>
<td>1.0%</td>
<td>1.9%</td>
</tr>
<tr>
<td>Slightly less</td>
<td>13.3%</td>
<td>14</td>
<td>1.0%</td>
<td>1.0%</td>
</tr>
<tr>
<td>About the same</td>
<td>17.1%</td>
<td>18</td>
<td>17.1%</td>
<td>18.1%</td>
</tr>
<tr>
<td>Slightly more</td>
<td>1.9%</td>
<td>2</td>
<td>22.9%</td>
<td>17.1%</td>
</tr>
<tr>
<td>Moderately more</td>
<td>9.5%</td>
<td>10</td>
<td>35.2%</td>
<td>24.8%</td>
</tr>
<tr>
<td>Much more</td>
<td>6.7%</td>
<td>7</td>
<td>22.9%</td>
<td>36.2%</td>
</tr>
<tr>
<td>Total</td>
<td>105</td>
<td>105</td>
<td>105</td>
<td>105</td>
</tr>
</tbody>
</table>

For the scenarios two and three, in which the availability of local food increases participants indicated (81.0% and 78.1% of participants respectively) that the number of members in their local food systems social network would be more. In the first scenario, where the production of food for a local food system remains the same as current levels while the population increases and there is a resultant increased dependence on imported food, 64.8% (N=68) respondents indicated that the number would be lessened. Compared to scenario four, where significant portions of the agriculture land base is used to produce non-food crops (reducing local food production capacity), slightly fewer participants (50.5%) believe the number of members in their local food systems social network would be lessened. In scenario 4, land available for food production is converted to other agricultural purposes (wine grape production, cannabis production and processing, hops and grain production for alcoholic beverages). This may suggest that the inclusion of non-food agriculture with local food agriculture may not greatly impact local food system actor’s potential for social capital development.
The second question in the section looked at the impact that the same four future local food system scenarios have on levels of trust between members in their local food system (Table 13). In the first scenario, where the availability of land used to produce local food would remain the same or decrease, 61 respondents (58.1%) indicated the level of trust between community members and community groups would be lessened (much less, moderately less, and slightly less), 27 respondents (25.7%) responded the level of trust would be the same, and 17 respondents (16.2%) indicated the level of trust would increase (much more, moderately more, and slightly more). In scenario four, the other scenario where some land would be used to produce non-food crops instead of producing local food, 45 (42.9%) respondents said the level of trust would be less, 37 respondents (35.2%) indicated...
it would stay the same, and 23 respondents (21.9%) that the level of trust would be more. For the scenarios where the availability of land used to produce local food is increased (scenario 2 and scenario 3), a smaller portion of respondents compared to the previous question (69.5% and 74.3% of respondents respectively) responded that the level of trust between community members and community groups would be greater. Compared to the indicator of social networks in the first question, more respondents indicated that trust will stay the same under these different scenarios. Overall, fewer respondents agreed that trust levels would change compared to size of networks under different future food system scenarios.

4.3.6 Summary

The results from the survey phase of the research provided a breadth of general information about participant’s perspectives on their local food systems and their individual level of social capital. Results from this phase of research also clarified key indicators of social capital most relevant to local food system actors. These indicators, social networks and trust, were further explored in the interview phase of research.

In summary, survey responses revealed that individual participants in the local food system play multiple roles in the local food system but are mostly local food consumers. It is no surprise that local food consumers interact less frequently with the local food system than do local food producers, retailers, processors, distributors, local food service and home gardeners, however, most survey participant responses suggest they all perceive moderate to high resultant levels of social capital. Participants perceive local food systems as being positive for communities and consider local producers, farmers markets, and retail stores that sell local food the most important actors in their local food systems. Responses also indicated comprehension of a relationship between participating in local food systems and different indicators of social capital.
4.4 **Phase 3: In-Depth Interviews**

A total of twenty-two interviews were completed for this phase of research. Participants were asked questions that address: 1) Participant’s experience with local food and their role in the local food system; 2) The impact that local food systems might have on communities; 3) The relationship between local food systems and building social relationships; 4) The relationship between local food systems and trust and reciprocity; 5) The relationship between local food systems and volunteerism and engagement, and; 4) The future of local food systems in the Okanagan and Similkameen (Appendix B).

Seventeen different themes emerged from these interviews that were subsequently organized under five major categories: 1) Agriculture in the Okanagan; 2) Local Food and Social connection; 3) Perspectives on Local Food; 4) Trust and Reciprocity in the local food system community, and; 5) Engagement and volunteerism in the local food system. These themes are presented in Table 14 and are organized by case study areas of the Okanagan Bioregion. Most themes were identified by participants throughout the interview process. However, several of the themes were first mentioned by the researcher in the interview process and a number of these themes were presented in the survey phase of research.
Table 14: Emergent Themes from Participant Interview by case study communities in the Okanagan Bioregion. Shaded areas indicate the most prominent themes that emerged.

<table>
<thead>
<tr>
<th></th>
<th>North Okanagan (7)</th>
<th>Central Okanagan (12)</th>
<th>South Okanagan (2)</th>
<th>Similkameen (1)</th>
<th>Total (22)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Agriculture in the Okanagan and Similkameen</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Agriculture and local food are part of identity and culture in the Okanagan</td>
<td>1</td>
<td>4</td>
<td>1</td>
<td>-</td>
<td>6</td>
</tr>
<tr>
<td>We are fortunate or proud of the ability to grow almost anything here</td>
<td>-</td>
<td>3</td>
<td>2</td>
<td>-</td>
<td>5</td>
</tr>
<tr>
<td>There are issues surrounding farming and land access</td>
<td>2</td>
<td>2</td>
<td>1</td>
<td>1</td>
<td>6</td>
</tr>
<tr>
<td>The wine industry plays a role in the local food system</td>
<td>1</td>
<td>4</td>
<td>1</td>
<td>-</td>
<td>6</td>
</tr>
<tr>
<td><strong>Total times category was mentioned</strong></td>
<td>23</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Local Food and Social Connection</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Farmers markets, COOPs, community gardens and CSA pickup locations are important sites for social connection</td>
<td>5</td>
<td>7</td>
<td>1</td>
<td>-</td>
<td>13</td>
</tr>
<tr>
<td>Participants a have built social connections in the local food system</td>
<td>5</td>
<td>11</td>
<td>2</td>
<td>1</td>
<td>18</td>
</tr>
<tr>
<td>Participants connect other people to the local food system</td>
<td>2</td>
<td>4</td>
<td>1</td>
<td>-</td>
<td>7</td>
</tr>
<tr>
<td>Local food brings people together</td>
<td>5</td>
<td>7</td>
<td>2</td>
<td>-</td>
<td>14</td>
</tr>
<tr>
<td><strong>Total times category was mentioned</strong></td>
<td>52</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Perspectives of Local Food</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Local food is healthy, fresh and good quality</td>
<td>2</td>
<td>8</td>
<td>1</td>
<td>-</td>
<td>11</td>
</tr>
<tr>
<td>Local food is good for the environment</td>
<td>3</td>
<td>4</td>
<td>2</td>
<td>-</td>
<td>9</td>
</tr>
<tr>
<td>Buying local food supports the local economy</td>
<td>1</td>
<td>5</td>
<td>1</td>
<td>-</td>
<td>7</td>
</tr>
<tr>
<td>It is important to know farmer and where food comes from</td>
<td>2</td>
<td>7</td>
<td>-</td>
<td>-</td>
<td>9</td>
</tr>
<tr>
<td><strong>Total times category was mentioned</strong></td>
<td>36</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Trust and Reciprocity in the Local Food System Community</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>A sense of trust exists between consumer and producer</td>
<td>4</td>
<td>8</td>
<td>2</td>
<td>-</td>
<td>14</td>
</tr>
<tr>
<td>There is reciprocity among community members in the local food system</td>
<td>1</td>
<td>6</td>
<td>2</td>
<td>-</td>
<td>9</td>
</tr>
</tbody>
</table>
Throughout the interview process half of the interviewees (N=11) discussed their perspectives about the agricultural industry in the Okanagan Bioregion. Agriculture and local food as an important component of the identity and culture of the bioregion was mentioned by six participants. Two participants explained that agriculture in the area provides a beautiful and unique physical landscape. One participant connected the landscape to local food production and explained:

“it adds to that variety in your landscape. And there’s something about just driving through that agricultural land that is a very warm feeling because it isn’t just that it's beautiful, but it also means there's food there” (P17).

Participants link agriculture to the reputation of the Okanagan Bioregion and recognize it as part of the bioregional culture and tradition. Participants explained agriculture plays an important part in tourism and it makes the Okanagan area an interesting place in which to live and to visit. When describing the impact that local food systems have on communities, one participant explained the value that it has for both residents and visitors: “It mak[es] a place interesting for people to live in and visit. It's all about food especially as a tourist” (P7). Several participants also spoke about the ability of the bioregion to produce almost any agricultural product; two participants commented on how residents should be proud of what can grow. Others expressed gratitude for the access they have to local food. One participant explained: “It’s quite a treat and a privilege here in BC that is not in other
parts of the country, to just be able to go up from [my] house and you know [you] have at least 4 or 5 different producers that can I buy everything from flowers to squash to nuts” (P5).

Several participants (N=6) also acknowledged that there are challenges associated with farming in the bioregion. One participant from the North Okanagan stated: “Farming is such a romantic venture it's not necessarily an economic one. It's really hard work” (P19). Other challenges participants mention specifically are about land access in the Okanagan and the economic viability of being a farmer. Interestingly, the participants that expressed gratitude for the abundance of local food provided by the region are not originally from the Okanagan or Similkameen area.

The topic of the regions wine industry came up with 6 different participants. When discussing the wine industry, four participants spoke of the wine industry as a significant part of the local food system. One participant summarized this sentiment suggesting that the wine industry is inseparable from the local food industry, particularly when it comes to tourism, and farmers should seize the opportunity to attach themselves to the wine industry:

“You know all the wineries that will host special events and bring in chefs and farmers list of all the places where they got the food and I think it’s pretty inextricable. You can’t really [separate them], in our region anyway, it’s so closely tied. If wine is like the star in quotations for tourism, then as a farmer you know attaching yourself to that in saying how can I then move my product or get a dialogue about all the cool farm initiatives we have here. If you can start that dialogue through the winery because they’re the ones getting the attention, then great” (P10).

Creating connection between local food and the wine industry as an opportunity for local farmers was shared by other participants. However, two participants noted that the wine industry poses issues for the local food production in the bioregion. One participant commented on the current use of agriculture land, “we’re not positioning ourselves to feed ourselves very well, we’re giving [land] all to grapes” (P13) Another participant linked producing wine to community food security, “in the South Okanagan I’m like, wow, it’s so beautiful here, but it’s so food insecure because no one’s growing vegetables, people are
growing cherries for export or people are growing wine that's going to rich people and not the people who need food” (P8).

The majority of the participants who expressed their opinions about agriculture and local food in the bioregion were from the Central Okanagan (N=6). The single participant from the Similkameen, both participants from the South Okanagan, and two participants from the North Okanagan also expressed their opinions about agriculture in the bioregion.

4.4.2 Local Food Systems and Social Connection

Four major themes emerged from the discussion on the connection between local food systems and social networks. Local food systems and its relationship to building social connections was the most prominent category of themes that emerged from the interview process. Three of the four major themes that make up this category were referenced by 59-81% of participants. Each theme is discussed below.

Thirteen participants (60%) explained that there are different features of the local food system that particularly facilitate social connection. Participants mentioned farmers markets, community gardens, Community Supported Agriculture box pick up locations and CO-OP stores as sites that facilitate social connection in the local food system. Farmer’s markets were referenced by 12 participants as a place where social connections are made and where community is built. One participant explained going to a farmer’s market is more than just a shopping experience: “Now going to the farmers market is like a social experience too and you get to see people that you know and at the end of market I buy gifts for my favorite farmers” (P3). The sentiment that farmers markets are a social experience was shared by other participants with one commenting: “As a social space, for sure the farmers market has a social component to it, how it’s set up and they have places for people to sit and eat so yeah there is social connection there” (P5). This perspective was also shared by a farmer’s market vendor:
“I guess what I really noticed is just the friends that you make that come week after week, the individuals that you might not even know their name, but you know them, and they know you. And there is that element of trust that you build up with customers. And it was really wonderful. It was a great experience.” (P18)

A participant explained that in addition to facilitating connections between producers and consumers, farmers markets also facilitate connections between vendors: “I think an example that comes to mind would just be like Farmers Markets and getting to know the other vendors by name to where you like look for each other at every market” (P6). The fact that 60% (N= 13) of all interview respondents referenced specific locations in the local food system as being sites that facilitate social connection among participants makes this theme an important and substantial finding. Most (70%, N= 5) of the participants from the North Okanagan and over half of participants in the Central Okanagan (58%, N= 7) took this position. One of the participants from the South Okanagan (50%, N=1) made this reference.

The next theme was identified by a majority of interview participants (81%, N=18). Participants indicated they have established social connection with others in their community through participating in the local food system. These participants explained they have either established social networks, created friendships, or made acquaintances through the local food system. Six participants stated that they have built a social network through their role in the local food system and the definition of a social network is understood differently by participants. One participant who shops at the farmers market reflected that they have built a social network there, even though the relationship may not be on a first name basis:

“I thought it was interesting that’s kind of what caught my eye with your study because once I started to think about, like at the farmer’s market, a lot of people I buy from there may not know my name, but they certainly know me. So, in some ways I think it is actually a social network that I have through this. Like I generally don't go and shop there with my partner, but I went like a few weeks ago and we went to town together and he did comment afterwards he said Oh my God you…all these people know you” (P9).

A participant who is a producer explained that other producers make up their social network: “Yeah, I mean that is our social network” (P13). They further explained that this is because other producers understand what they are going through: “That's the only people
we can actually relate to anymore, some people who work a day job don't get it. It's a
different story. It's really important to have a network of people who can relate to doing
something so incredibly challenging and not monetarily rewarded" (P13). The importance of
creating social networks among producers is shared by other participants who are
producers.

Membership of a social network is determined differently by different local food
system actors. Consumers indicated members in their food system social network are
vendors or other actors they have built a sense of rapport with. For producers, it is other
producers that make up their social network. This is consistent with another theme that
emerged from the interviews. For producers, creating social networks with other producers is
necessary for success as a producer. Producers work together and depend on their social
networks to help each other out.

Seven participants referenced developing friendships through the local food system. The
majority of friendships referenced were between producers and consumers. One participant
who is a consumer described this: “I feel that way, definitely. I'm thinking of like five or six
growers that I've gotten to know over the last couple of years and have visited and there's
been a couple that we've made friends with and we've had them over for supper” (P10).

Producers expressed that they have befriended their customers as well. One producer
shared their experience: “I've met some people that have become really good friends of mine
when they've come to our fruit stand” (P18). Two participants who are not producers or
consumers explain they have made friendships through their volunteer work related to the
local food industry. Five other participants described their connection they’ve made as an
acquaintance type of relationships, not friendships, but an important connection none the
less.

“I've known her for like probably 20 plus years and buying produce from her just about
that whole time because she's been at the farmer’s market for as long as I can remember. So,
you know, would say that we're friends? I wouldn't say we're friends but are we acquaintances, absolutely. And I do care that these people are within my community and that I'm helping to support them” (P22).

Throughout the interview process, numerous participants (N=7) brought up examples of how they have facilitated connecting people to others involved in the local food system. A number of participants (N=4) introduced new people to the local food system by introducing them to farms, farmers or agriculture businesses. A great example of this was given by one participant:

“Every July at UBC where we work we get a new group of residents. This year I took an afternoon with them to go show them some really cool local places where they could get fresh products because none of them are from here. So now I see them all summer at all the farmer’s markets and they have messaged that they have tried some restaurants that only serve local food and those sorts of things. So, getting excited about integrating new people into the local food system has been really inspiring to me” (P10).

Other participants (N=3) gave examples of how they have connected producers within the local food system. In these situations, producers indicated they are connecting with one another to share knowledge, advice and experiences. One participant facilitated connection between two producers through their professional role in the local food system:

“Part of my role is to connect people. So, if I have somebody who is coming into the region who wants to grow garlic, I could say I know four other people that grow garlic so if you want that connection I’m happy to introduce you” (P5). This demonstrates that these particular participants are very familiar with the agriculture community and have connections within the local food system. Therefore, in addition to places that facilitate social connection between people in the local food systems, substantially involved individuals in the local food system also facilitate connections in the local food system.

The last theme in this category is that local food brings people together within communities. Over half of the participants (N=13) offered that local food connects people in different ways. Participants explained that local food connects you with your neighbours, it builds community, and people socially connect over local food it. One participant explained
that local food systems naturally provide more opportunity for social connection: “I think one of the effects is that it just provides connection for people that you wouldn’t get if you went into a supermarket… by and large I think it just provides for more connection” (P9). Another participant agreed that people connect over local food and conferred this as a valuable contribution to human well-being: “I mean food is how people connect, sharing meals together is like the best thing people can do for your mental health” (P16). One participant poignantly suggested that the social connection that results from local food systems is its largest benefit:

“You know I’ve come to believe that it’s probably more important than the food we get. I mean you know the food is an important part of it but people’s connection and knowing how people are doing and getting to know your neighbours and whatever I think is probably a bigger part of what’s in involved” (P12).

Several participants said that the reason local food connects people is because food is a naturally social experience for people and because it is something we all have in common. Other reasons offered included: if you love food you will connect with producers in the Okanagan; local food options and venues that showcase local food brings people together and; people connect to their farmers through their interest in local food production.

The majority of participants (81%, N= 18) have established some form of relationship through the local food system and many participants (60%, N=13) acknowledged there are particular sites in the local food system that facilitate social connection. This was the most compelling category of themes that emerged through the interview process. Every participant spoke about one or more of the themes in this category and as such this category was discussed the most (52 times) throughout the interview process.

4.4.3 Perspectives on Local Food

The themes in this category emerged when participants discussed the impact that local food system has on their communities. Participants were given prompts to guide the discussion regarding local food systems impact on community, including if they thought it
impacts health, the environment, and the economy. Participants (N=11) described local food as healthy, good quality and fresh. One participant connected the health of food to the distance it’s travelled: “Health wise and energy wise food is so much healthier if it’s locally produced not traveling a long distance just nutritionally and so on” (P19). Six participants explained that local food is of good quality with one participant compared it to conventionally grown food saying: “I certainly think local food is better quality” (P9). Participants also described local food as fresh because it has not travelled a long distance.

Nine participants explained that local food is good for the environment. Four participants offered that this is because transportation cost of local food is less compared to conventional food. One participant framed this as an ethical issue:

“Transportation cost alone will make purchasing from your local farmer way more ethical because something I try to be cognizant of is how far I’m driving to get my groceries. What kind of environmental impact am I having by eating and buying and using the things that I use. So, you know, personally I just think it’s important for all of us to just become more aware of how we are treating the environment through what we are purchasing” (P22).

Seven participants acknowledged the contribution that local food makes to local economies. Two participants cited agriculture-tourism as an example of how local food contributes to the economy and one participant explained that local food strengthens community economies in many ways:

“It strengthens it at all levels and especially from the multiplier effect if you’re employed in the agriculture industry the multiplier effect is five times because you support the hotels and supermarkets and the agri-tourism industry… Food is a central element to so many industries that are here whether it be manufacturing, tourism, investments, like investors coming to invest say in a winery or a restaurant. And as the food community grows supporting industries grow as well. So, this strengthens community in many ways” (P7).

Four participants (P15, P10, P3. P7) expressed that buying local food supports local businesses but concern was expressed that there might not be enough participation to make significant impact: “I feel like I vote with my dollar, I choose to spend money on food that does support the local food economy but I worry that there aren’t enough people doing that to make it worthwhile, like enough to make it have an impact” (P3).
The last theme to emerge related to perspectives on local food came from nine participants who mentioned it is important to know your farmer and where their food comes from. One participant acknowledged that knowing your producer is part of knowing where your food comes from and suggested it’s something others should do:

“You should know where your food comes from and so we should know the people who are producing our food so when you go to farmers market or use CSA you get to know people in your community who are doing this and they are helping to support local food production so I encourage others, if they can to do that too” (P3).

Four participants also mentioned there is a trend among consumers to want to get to know where their food comes from. Two of those participants are producers and one expressed this perspective: “What I see in the last 30 years is people are wanting to know where the food comes from almost as much as to whether it’s organic or not” (P18).

Overall, 18 (81.9%) interview participants expressed their perspectives on local food systems during the interview process. This category was mentioned less frequently in the interview process (36 times) and the emergent themes are therefore less prominent than those from the previous category (i.e. social connections).

4.4.4 Trust and Reciprocity

The first theme in this category emerged from fourteen interviews and captures the sense of trust that exists between producers and consumers in local food systems. Eight participants referenced they trust their farmers because they trust local producers to provide safe and ethically raised food. One producer also acknowledged this: “I think that it’s a fairly intimate relationship you have with somebody who you’re feeding, when they actually know you and watch what you do on social media. Yeah, I mean, they’re putting their trust in us that it’s going to be safe” (P11). Other participants explain that they trust producers when they meet them and get to know them. A producer shared the idea that in person interaction builds trust and added that producers also put trust in their consumers:
“You meet people face to face that are growing your food and generally that, to see a person, it helps to know them and have trust and then also it builds trust. Like the CSAs, these are great because you’ve got Community Supported Agriculture. You’ve got a farmer that can trust that their community is going to purchase what they put all the effort into growing. And so, it’s a safer venture” (P19).

This idea that producers trust consumers came up in four other interviews. These participants explained that the sense of trust producers have in consumers is shown through an ‘honor system’ that exists between consumer and producers. Two participants witnessed this situation at the farmers markets where consumers don’t have enough money to pay and the producer says to pay them next time. One participant explains that that this phenomenon still exists in the City of Kelowna because it retains a small town, rural sensibility: “So I think that was more common when you were more rural and smaller, and I think that’s part of the hold over here in Kelowna of it being a smaller community” (P5).

A sense of reciprocity between producers and consumers is described by six participants. One participant explained a situation where a producer at the farmers market helped them with their problem trying to press grapes:

“So I was telling Michael, the Fruit Guy that and he said you need a steam juicer so he offered to loan me one and I was like that’s really nice of you, and he said well I better loan it to you because you guys give me thousands of dollars of business every year and I think he as exaggerating because I don’t think that’s true but it was just funny and it made me laugh” (P3).

In this example above, the participant knows the producer on a first name basis and has established a relationship with him. This is consistent with four other interviews where participants have described examples of reciprocity between producer and consumer. Interestingly, in two other interviews a sense of reciprocity between producer and consumers was expressed even when producers and consumers do not know each other on a first name basis or have a prior relationship. Other participants described examples of reciprocity among local food system actors. There is a sense of reciprocity in community gardens, among neighbours who have fruit trees, and between community groups involved in the local food system.
A strong sense of reciprocity seems to exist between producers. Over half of interview participants (65%, N=13) described situations where producers help each other and work together. This perspective came from both producers (N=7) and from other local food system actors (N=6). Examples included producers sharing knowledge with each other:

“They share a lot of knowledge and learning, so orchardists who are growing the same variety will share concerns that come up, or best practices or if they’ve had particular success in different areas there and they’re very open in that knowledge sharing which doesn’t happen across all industry” (P22).

Two other participants corroborated the idea that producer knowledge sharing and working together is common in the Okanagan Bioregion, citing such occurring between beekeepers and cider producers. Producers support each other by pooling their products to for sales for greater financial viability and also share equipment and farm staff to help each other out. One producer explained they let a competitor share their equipment during a crisis: “the other big one in town, it burned down at the beginning of the season… And so, we let them operate out of my farm, they use our abattoir here” (P11). Other participants (N=3) gave examples of when producers helped each other out during crisis. One participant described a situation involving a vendor at a farmer’s market who got into an accident:

“He was in a wheelchair when he first got back, and he couldn’t wait to get back to the market for the social aspect of it because he loves talking to people. He was there in his wheelchair and then all the other organic farmers that know him would come and talk to him and other farmers chipped in and everyone wanted to help them so that they could keep the farm running. So, everybody was volunteering time away from their own farm to help them, so it was really beautiful to see how the community came together to help them” (P3).

Several participants (N=4) pointed out that the local farming sector is small in the bioregion and a lot of producers know each other: “most producers in the region know each other and likely know each other both in a professional and a social capacity” (P5). Producers may naturally help each other out because the agricultural industry is small, they all know each other, and there are so few of them. One producer alluded to this:

“With the organic industry, it’s a pretty small industry. Everybody knows each other and you’re all in for the long game. So, you know trying to hide information or even like that doesn’t
help you. So generally speaking, yeah everybody is out there to help each other as much as possible” (P21).

The results from this category reveal there is a level of trust between local producers and consumers, and a strong sense of reciprocity between producers. There seems to be only a moderate sense of reciprocity between consumers and producers.

4.4.5 Volunteerism and Engagement

Whether or not participating in local food systems furthers local food system actor volunteerism was asked of nine of the twenty-two interview participants. Four interview participants agreed that engaging in a local food system foment volunteerism in themselves and in others. One participant was clear that it is directly responsible for their volunteerism in the community: “I would say that we’re more engaged in community based on being involved in the food system. I would definitely say that now” (P8). Thus, there is indication that for some participants, engagement in local food systems motivates volunteerism. Due to the fact that this was only asked in nine interviews and only four participants believe their participation in their local food relates to their volunteerism, it is difficult to draw a strong conclusion. However, 36% of the interview participants relayed that they are very active volunteers in their communities. These individuals participated in community organizations related to food, other organizations and demonstrate an overall high level of volunteerism.

4.4.5 Summary

There are several prominent themes that emerged from the interview phase of research (Table 14). First, many local food system actors established social relationships in their local food systems and attribute this to their participation in their local food system. Second, there are important places in the local food system where these social relationships are created. Third, there is a sense of trust that exists between some local food consumers and local food producers. Lastly, a high level of reciprocity is apparent between local food
producers in the Okanagan Bioregion. These results from this phase of research correspond with the findings from the survey phase of research and are further discussed in the next chapter (Chapter 5: Discussion).
Chapter 5: Discussion

5.1 Overview

The purpose of this exploratory mixed methods case study was to gain an understanding of the relationship between local food systems and community social capital using participatory based approaches. This research also sought to determine the most appropriate indicators of social capital in local food systems and how it can be assessed. Overall, the outcome of this study reveals that for local food system actors in the Okanagan Bioregion, there is a connection between participating in local food systems and various indicators of social capital. That connection is particularly strong for the indicator social networks. In this chapter I discuss the main findings of this research.

5.2 Participating in Local Food Systems and Indicators of Social Capital

When compared to other studies, results from this study suggest that participating in local food systems does contribute meaningfully to social capital development. Findings imply that participants in the local food system established a level of trust among one another, there is a sense of reciprocity between them, and several are engaged in their local food system communities. Most notably, participants created social networks through their participation in the local food system.

5.2.1 Trust and Reciprocity

Although a definitive connection between participating in local food systems and building trust with others was not substantiated from this research, results reveal a degree of trust does exist between local food system actors. The survey results suggest that participants have a general level of trust in others in their local food system. Additionally, interview results reveal that local food consumers trust producers to provide them with safe food and they developed this trust by connecting with their producers. It also appears producers have a level of trust in their customers. A high level of trust in general and trusting
other members of your community illustrates an individual’s level of social capital (Chazdon et al., 2013; Ferragina, 2016; Kitchen et al., 2012; Lui and Besser, 2003; Petzold, 2016). This research finds that there is a degree of trust between some local food system actors reflective of participant’s individual level of social capital. However, this research does not demonstrate that participating in local food systems would necessarily build an individual’s degree of trust in others, or that there is a direct relationship between the two.

Results from this research suggests there is a sense of reciprocity that exists between local food systems actors. A level of reciprocity exists between some local food consumers and local food producers, occurring mostly between participants having an existing relationship established at farmers markets. This research indicates that a stronger sense of reciprocity exists between local food producers in the Okanagan Bioregion. A sense of reciprocity is demonstrated when community members do favours for each other or if they seek information from each other (Bauermeister, 2016; Chazdon et al., 2013) Findings suggest that local producers have social networks of other producers who they reach out to for support, and that support is reciprocated. It is unclear where this sense of reciprocity is derived from and if it is directly resultant from local food producer’s participation in the local food system. Therefore, one cannot conclusively say there is a direct relationship between participating in local food systems and building reciprocity between local food system actors.

5.2.2 Volunteerism and Engagement in Local Food Systems

The findings of this study do not suggest a particularly strong connection between participation in local food systems and promotion of volunteerism among community members, though without a baseline assessment this is difficult to conclude. Half of the survey participants have worked together with others in their community to address a shared problem and just under half of interview participants are actively engaged in their communities. This suggests that some participants have a level of social capital based
predicated on their volunteerism and engagement in their community associations (Ferragina, 2016; Lui and Besser, 2003; Thompson and Slaper, 2013), However, it is unclear if participant’s attribute their sense of volunteerism directly or exclusively to their activity in their local food system. While it is unclear if there is a direct relationship between participation in local food systems and volunteerism, my study findings are consistent with the literature that argues volunteerism and levels of engagement are not particularly effective indicators of social capital (Table 1 in Phase 1).

Findings do indicate that local food systems actors value engaging in their local food system and consider local food systems an important part of their community. Themes emerged about: the role local food plays in strengthening the community by supporting the local economy, community health, and the environment; and the importance of agriculture and local food for the region’s identity, culture and tourism. Local food producers, farmer’s markets, and retail stores that sell local food are also considered very important features of local food systems. Additionally, the fact that over half of survey respondents volunteered to participate in interviews also speaks to the notion that local food systems are important to community members. This strong response surpassed expectation and reveals the importance of local food systems to local food systems actors in the Okanagan Bioregion. In general, these findings suggest that local food systems are important to local food system actors in the Okanagan Bioregion.

5.2.3 Social Networks

This study strongly supports the notion that there is a connection between participating in local food systems and building social networks. Results from both phases of research reveal that local food system actors established social relationships and social networks through participating in the local food system. For some participants, these social networks are large, good quality and promote fairly frequent contact between actors. Having
a substantial social network comprising frequent associations, can result in support when an
individual is in need. This indicates a high level of individual social capital (Chazdon et al,
2013; Ferragina et al., 2016; Grootaert et al., 2004; Kitchen et al., 2012; Sseguya et al.,
2018; Stanley et al., 2012). Local food system actors in this study attribute creating social
networks to their participation in the local food system, which contributes to their individual
level of social capital. Therefore, this research further substantiates the theory that local food
systems indeed build valuable social capital in communities through social connection
(Bauermiester, 2016; Webb Farley and Bush Blancard, 2016; Glowacki-Dudka et al., 2013;
Glover, 2004) and this is certainly the case in the Okanagan Bioregion.

Both local food producers and local food consumers cite making social networks
through participating in their local food system but the nature of participation in the local food
system and building social networks in the local food system varies. In the interview process,
the definition of social networks was left undefined, which allowed for participants to
conceptualize social networks for themselves. Local food consumers defined members of
their local food system social network as people they saw regularly (even if they may not
know their name), friends, or acquaintances. Local food producers defined their social
network differently and their network serves a functional purpose. The strongest, seemingly
most meaningful and valued networks established by local food producers are largely made
of other producers. Such networks facilitate critical support and assistance and play a vital
role in producer success. One can conclude that producer to producer networks are
extensive and thus an important dimension of the Okanagan Bioregions food system.

It is clear that local food systems facilitate building social network only for those that
regularly participate in them. Whether or not participating in local food systems will lead to
building social networks seemingly depends on a number of factors. A high level of individual
social capital is related to being extroverted (Stanley et al., 2012) so it may be that local food
system actors who built social networks are more extroverted and thus results of this study
may reflect this. Indeed, some participants considered members in their local food system social network as friends as opposed to merely acquaintances. The experience of participating in local food systems can be social or transactional. The occurrence is entirely dependent on the person and is based on the participant’s individual personality and intent. Importantly, it must be noted that building social networks through the local food systems is reserved for those that have access and means to frequent the sites where local food is either produced or sold. Numerous studies have argued that predominant spaces in the local food system, such as farmers markets, are exclusionary and the typical customer is of Anglo ethnicity, relatively affluent and well educated (Alkon and McCullen, 2010; Dodds et al., 2014; Farmer, 2014; Rice, 2014). There are barriers to participating in the local food system and privilege plays a major role in determining one’s capacity to do so (Farmer et al., 2014; Rice, 2014). Therefore, creating social capital created via participating in local food systems, is seemingly only available to a privileged subset of the community.

This study also supports the contention that social networks are a valuable indicator of social capital in local food systems. Social networks were the most prominent indicator of social capital. Participants strongly associated the indicator of social networks to participating in local food systems compared to any other indicator of social capital. Other indicators of social capital were not nearly so strongly indicated. For example, the connection between participating in local food systems and building trust and reciprocity was far less apparent and therefore cannot be established as a particularly reliable indicator of local food system derived social capital. Similarly, the indicator of volunteerism as it relates to participating in local food systems was less evident. Thus, it appears from this study that social networks are the most relevant indicator of social capital for local food system actors and arguably the most tangible, powerful indicator of social capital emanating from local food systems.

These findings underscore importance of social networks as an indicator of social capital substantiated by other research focused on social networks as the primary variable to
measure social capital (Campbell et al., 2010; Stanley et al., 2012). This suggests that social networks alone are a sufficient indicator of social capital and social capital development potential. This notion compliments the thinking of Putnam (2000), who offered that social networks are based on trust, and that increasing social connection can foster norms of trust and reciprocity. Although a direct connection between participating in local food systems and building trust and reciprocity between actors was not strongly indicated in this study, there is thinking that trust, reciprocity and social connection go hand in hand (Bauermeister, 2016; Putnam, 2000). The conclusion that social networks are a valuable, accurate indicator of social capital in local food systems further substantiates recent research arguing that evaluating social networks is an appropriate proxy to measure the overall community impact, including economic development, of local food systems (Goldenberg and Meter, 2019).

5.3 Placemaking in Local Food Systems

The results of this research are consistent with the concept of placemaking through sense of place and social connection (Cresswell, 2008, 2009). Participants of this research attribute importance to features of their local food systems, such as farmers markets, and consider them key spaces for social networking. This suggests that by participating in local food systems, meaningful places in the local food system are created through social connection. This relates to the geographical concept of ‘placemaking’ (Cresswell, 2013).

Human geographers define ‘place’ as a location with meaning. It is the combination of a physical location in space and sense of place (Cresswell, 2008, 2009). Sense of place is the feelings and emotions a place evokes, and the attachment people have to a location (Cresswell, 2009; Foote and Azaryahu, 2009). ‘Place’ is, therefore, constructed out of experience and social processes in a space (Cresswell, 2013; Massey, 1994). Frequenting spaces where people are brought together by a common interest creates a sense of place, and place-specific shared experiences contribute to a sense of community (Foote and
Azaryahu, 2009). Therefore, connecting in a space where people are brought together by a common interest, such as at farmers markets, creates sense of place. Sense of place then further facilitates social networking and social connection (Foote and Azaryahu, 2009).

This finding is consistent with other studies that identified sites in the local food system as a source for building social capital, finding that participants created social networks at these locations (Brown and Miller, 2008; Glowacki et al., 2012; Glover, 2004). For example, Glowacki et al. (2012) found that farmers markets are important places for creating networks and making and renewing friendships. Glover (2004), found that community gardens are places that can be both a result of and source of, social capital. Farmers markets as a key component of a local food system was another finding of this research. Consistent with Brown and Miller (2008) and Schupp (2017) this research reveals that actors in the Okanagan Bioregion consider farmers markets important a meaningful place of connection in the local food system. This research suggests that by participating in spaces in local food systems, local food system actors are establishing meaningful places in the local food system through sense of place. These meaningful places in the local food systems then reinforce social connections because of the attachment of sense of place to these locations.

The sense of place created in local food system is unique compared to other places where sense of place can be created, for instance a community centre, bar, or curling club, largely because of the human-nature connection associated with participating in local food. There is a known benefit to human health and well-being from connection to nature (Frances, 2013), however, more urbanized lifestyles have made the human-nature connection difficult and as a result, many adults and children lack exposure to nature (Louv, 2008, Warber, 2015). Limited opportunities to encounter nature and connect to the environment results in “nature deficit disorder,” which signifies that disconnection from nature has consequences for human physical and emotional health (Grimwood, 2017; Louv, 2008).
Participation in local food systems is one means to overcome this ‘disorder’. Even a small dose of an ‘everyday’ form of nature, such as being at farmer’s markets, can have benefits for human health and well-being (Frances, 2013; Faber Taylor and Kuo, 2011).

A driver for participation in local food systems is to reconnect to the land (Feagan and Morris, 2009) and patrons of farmers markets are motivated by the desire to connect to the local environment (Carson et al., 2016; Zepeda and Deal, 2009). Therefore, the sense of place created in local food systems is unique because it advances human-nature/land interaction. In addition to the sense of social attachment that creates sense of place, in local food systems, sense of place is also derived from a desire to connect to land which is highly valuable as a benefit for human well-being beyond what is the case in other settings. Overall, these results demonstrate a connection between participating in local food systems and creating social relationships, largely facilitated by placemaking through social connection and sense of place at different spaces in the local food system.

5.4 **Main Conclusions**

There are three major conclusions that can be drawn from this study. First, local food systems do positively promote social capital, which is most definitively indicated by the connection between participation in local food systems and building of social networks among local food system actors in the Okanagan Bioregion. Secondly, social networks were the strongest and the most definitive indicator of social capital emanating from a regional food system. Attesting to the theory of placemaking through sense of place as a product of social connection, the third conclusion is that local food system actors create meaningful places in local food system through sense of place that further facilitates social networking.
Chapter 6: Conclusion

6.1 Conclusion

In the Okanagan bioregion, local food systems actors conveyed that participating in local food systems most prominently impacts the development of social networks. Therefore, this research adds to what is known about the relationship between social capital and local food systems. This study successfully observed that participating in local food systems impacts citizen individual level of social capital through social networks via social connection. This study also contributes to the body of knowledge on social capital theory by successfully observing this indicator of social capital and by corroborating that social networks are a pertinent and strong indicator for the assessment of social capital as an artifact of local food systems.

Observing social capital in this way can affect policy and this study provides important information for local food movement activists, policy makers and community leaders in the Okanagan Bioregion. It reveals the potential of a local food systems to increase individual level of social capital, and overall community social capital, via the social networks promoted by local food systems. This further establishes the value of local food systems in the Okanagan Bioregion beyond what was previously known. Additionally, this research found that meaningful places in the local food system foster social networks and facilitate building community social capital. Local food system venues such as farmers markets, community farms, community gardens, food hubs, etc., are places instrumental for creating sense of place, which in turn substantially facilitates and reinforces social connections. This is important for policy as it provides community leaders evidence as to how local food systems promote social capital and how local food systems can be used as a tool for community development. It also further validates the importance of human-nature connection for social well-being.
Social capital is the lifeblood of any community, it is the glue that holds society together, and it is at the heart of community development. Through this study, it is hoped, that communities in the Okanagan Bioregion will be better informed regarding the community development value inherent in advancing a bioregional food system via enabling initiatives and policies. And in confident awareness that citizen participation in local food systems fosters social capital development through social connection.

6.2 Limitations

This research furthers the understanding of the impact that local food systems have on local food system actors in the Okanagan Bioregion. However, there are several limitations to the study. The first is related to the sample set. The sampling strategy used in this research was a purposive, non-random sample based on a set of criteria (Merriam and Tisdell, 2016; Wilkinson et al., 2019). The primary criterion was that participants must be community members who are actively involved in the local food systems in the Okanagan Bioregion. The sample set excluded local food system non-participants. As such, it is questionable whether the finding can be extrapolated to the population at large (Payne and Payne, 2004). I specifically recruited a sample from groups in the case study communities that were involved in the local food system which constitutes selection bias and influence of results. This was mitigated as much as possible by not assigning results to the larger population and not emphasizing the opinions of any single participant that selected in the purposeful sampling procedure (Wilkinson et al., 2019). I contend only that participating in local food systems impacts the social capital of community members actively involved in local food systems and that these perspectives derive solely from bioregional food systems participants in the Okanagan Bioregion.

A second limitation is that the sample lacked Indigenous local food system actors. This was an unintended outcome of the sampling strategy. The sampling criteria included
participants involved in the local food system and I broadly reached out to local food systems participants aligned with this criterion. Unfortunately, responses did not include any Indigenous persons from the bioregion. It may be that Indigenous persons do not affiliate with the groups and organizations I used for recruitment. I also did not include an Indigenous food ways option in the survey where participants are asked to describe their role in the local food system.

Nationally, engagement and collaboration with Indigenous communities throughout the research process is essential for addressing the colonial legacy and power structures perpetuated by conventional research in Canada (Castleden et al., 2012). In the Okanagan Bioregion, involving Indigenous communities and integrating Indigenous knowledge into research on local food is imperative. Stewardship of the land through sustainable food harvesting, hunting and gathering is deeply rooted in and important to Syilx/Okanagan Nation tradition and culture (Armstrong, 2007; Terbasket, 2019). Conducting research on the impact that local food has on communities in the Okanagan Bioregion without integrating Indigenous perspectives on local food and Indigenous food sovereignty, represents incomplete study and limits the research findings and the interpretation thereof. For academic research in the bioregion, involving and collaborating with Indigenous communities is vitally important for decolonizing the university researcher-Indigenous community relationship (Castelden et al., 2012). This research lacks an essential perspective from an important local food system demographic in the Okanagan Bioregion and thus constitutes a major shortcoming.

Both of these limitations have an impact on external and internal validity of the results. Without a non-participant perspective, the biases of the sample lower the degree of internal validity because it lowers the confidence that participating in local food systems promotes building social networks. The research results of this case study are place specific, however, these methodologies and results of this study may be applicable to other
communities. Conclusions drawn here may suggest further questions, hypotheses and implications that can be of use in other communities (Lauer and Asher, 1988, p.32).

However, as a place specific case study with a targeted sample, the external validity of the results is weakened, and the results are difficult to generalize to other communities where local food systems exist.

6.3 Recommendations for Further Research

Based on the results of the study, there are several recommendations for future research. First, the limitations outlined above may be minimized by revision of the sampling strategy. To improve the validity of the results, future research should adapt the existing survey to include perspectives from persons not participating in the local-regional food system. Such perspectives could be compared to those held by local food system actors to improve or verify the findings. Second, to strengthen the study, a participant observation protocol could be introduced at sites of social connection in the local food system for data triangulation. Third, future studies could extend the findings by employing some form of social network analysis to gain an in-depth understanding of the extent of social networks that exist in the Okanagan Bioregion and how they benefit community members. Social network analysis assesses the extent and strength of relationships in a social network and viewing a network can reveal insights regarding how to leverage existing relationships for support and pathways with potential for collaboration (Goldenberg and Meter, 2019). Lastly, it is essential that future research adopt a community based participatory research philosophy in regard to engaging Indigenous communities to co-learn and co-create knowledge about local food in the Okanagan Bioregion. This involves collaborating with Indigenous communities at every step of the research process and starts with early engagement with local Indigenous communities (Castelden et al., 2012).
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Appendices

Appendix A: Phase 2 Online Survey Questions

Termination Question:

1. In which of the following regions do you currently live?
   - ☐ Outside of the Okanagan/Similkameen Valley
   - ☐ North Okanagan (Vernon, Armstrong, Enderby, Lavington, Lumby)
   - ☐ Central Okanagan (Kelowna, West Kelowna, Lake Country, Oyama, Peachland)
   - ☐ South Okanagan (Penticton, Oliver, Osoyoos, Summerland)
   - ☐ Similkameen (Princeton, Keremeos, Hedley, Cawston)

[Terminate if Outside of the Okanagan/Similkameen Valley]

Participant Role and Experience Questions

2. Which of the following best describes your role in the local/regional food system (select up to three that apply).

   By local/regional food system, we mean all the people, processes and interactions responsible for producing food and getting it to customers (e.g. local food producers, distributors, retailers, etc.), as well as disposing of local food, within the Okanagan and Similkameen Valley.

   - ☐ Local food producer (e.g. grains, fruits, vegetables, poultry, eggs, honey, beef, pork, etc.)
   - ☐ Local food retailer
   - ☐ Local food processor
   - ☐ Local food distributor
   - ☐ Local food system educator
   - ☐ Local food system activist
   - ☐ Local restaurant/food service
   - ☐ Urban Farmer
   - ☐ Home Gardener
   - ☐ Local food consumer (e.g. shop for local food, receive CSA/food delivery box)
   - ☐ Other (please specify) [Text box]

3. You Selected: [Section 1], [Selection 2], [Selection 3].
   How often do you participate in/perform your role(s) in the local/regional food system?

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<th>Daily</th>
<th>3x per week</th>
<th>Once per week</th>
<th>2-3 times per month</th>
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</table>

[Selection 1]
4. How long have you been involved in the local/regional food system?
   - 20 or more years
   - 15-19 years
   - 10-14 years
   - 5-9 years
   - 1-4 years
   - Less than a year

Participant Level of Social Capital Questions

5. How would you quantify the number of members in your local/regional food system social network?

   This includes friends, acquaintances, contacts, collaborators, co-workers, other members in your professional network, or family members within the local/regional food system.
   - 50 or more members
   - 41-49 members
   - 31-40 members
   - 21-30 members
   - 16-20 members
   - 11-15 members
   - 6-10 members
   - 3-5 members
   - Less than 3 members

6. In general, can you count on someone in your local/regional food system social network to help you if you need some extra help?
   - Strongly agree
   - Agree
   - Somewhat agree
   - Neither agree nor disagree
   - Somewhat disagree
   - Disagree
   - Strongly disagree

7. What is the frequency of contact you have with members of your local/regional food system social network? (e.g. in-person meeting, phone call, email or text message, etc.)
   - A couple times per week
   - Once a week
   - A couple times per month
   - Once a month
   - A couple times per year
   - Once per year
   - Less than once per year
   - Never
8. When thinking about your local/regional food system community (e.g. members in your local/regional food system social network, your neighbors, other members/actors in the local/regional food system, etc.) please indicate how strongly you agree or disagree with the following statements.

8a. “In general, most people can be trusted.”
(1-Strongly Agree, 7 Strongly disagree)

8b. “It is important to feel part of the local/regional food system community.”
(1-Strongly Agree, 7 Strongly disagree)

8c. “In general, you feel part of your local/regional food system community.”
(1-Strongly Agree, 7 Strongly disagree)

8d. “You and others in your local/regional food system community do favours for each other.”
(1-Strongly Agree, 7 Strongly disagree)

9. Please indicate if you have ever partnered or worked together with others in your local/regional food system community to address an issue (e.g. engaged in activism, formed a group around an issue, created a petition, participated in a local food related forum or conference, etc.).

☐ Yes [Ask 9b]
☐ No [Skip to 10]

9b. [If answered Yes] Please indicate how many times you have partnered or worked together with others in your local/regional food system community to address an issue.

[Text Box]

Opinion on Local Food System Questions

10. Please use 5 key words to describe your regional/local food system.
[Text box]

11. In your opinion, from the list below, which 5 factors of a local/regional food system (e.g. actors, distribution models, infrastructure, activities, etc.) are the most important contributors to your local/regional food system?

Instructions: Please click and drag 5 items into the Top 5 Factors Box, then drag the items within the box to rank 1-5, 1 being the most important factor.
12. In your opinion, how would you rate the effect of the local/regional food system on your community?
   - Very positive
   - Positive
   - Somewhat positive
   - Neither positive or negative
   - Somewhat negative
   - Negative
   - Very negative

Relationship Between Local Food Systems and Social Capital Questions

13. Please indicate if you agree or disagree with the following statements.

"Participating in local/regional food systems (e.g. farming, producing, processing, distributing, buying, advocating for, or educating about local food) creates: ... "

13a. "Relationships and connections between community members and groups"
    (1-Strongly Agree, 7 Strongly disagree)

13b. "Trust and reciprocity between community members and groups"
    (1-Strongly Agree, 7 Strongly disagree)

Social Capital under Future Food System Scenario Questions
14. **The following questions ask you to envision different outcomes for your local/regional food system and whether you think social aspects of your community would change under these different outcomes.**

Do you think the **number of connections, friendships, or collaborations** in your local/regional food system social network would change under the following 4 scenarios?

14a. Scenario 1 - No additional land is converted for food production and the population continues to increase. The community becomes less food self-reliant and more dependent on imported food.
(1-Much less, 7 Much more)

14b. Scenario 2 - Land available for food production is converted and used for food production.
(1-Much less, 7 Much more)

14c. Scenario 3 - Land available for food production is converted, is used to produce food and land is also set aside to protect natural resources, critical wildlife habitat, and species at risk.
(1-Much less, 7 Much more)

14d. Scenario 4 - Land available for food production is converted to non-food agriculture including wine grape production, cannabis production and processing, hops and grain production for alcohol.
(1-Much less, 7 Much more)

15. Do you think **the level of trust** between community members and community groups in your local/regional food system would change under the following 4 scenarios?

15a. Scenario 1 - No additional land is converted for food production and the population continues to increase. The community becomes less food self-reliant and more dependent on imported food.
(1-Much less, 7 Much more)

15b. Scenario 2 - Land available for food production is converted and used for food production.
(1-Much less, 7 Much more)

15c. Scenario 3 - Land available for food production is converted, is used to produce food and land is also set aside to protect natural resources, critical wildlife habitat, and species at risk.
(1-Much less, 7 Much more)

15d. Scenario 4 - Land available for food production is converted to non-food agriculture including wine grape production, cannabis production and processing, hops and grain production for alcohol.
(1-Much less, 7 Much more)
Do you consent to being re-contacted by email to determine if you would be interested in participating in a subsequent phases of this research project, which include a one-on-one interview and a focus group workshop?

Your information and email address will be confidentially linked to your survey responses; however, your identity will be kept strictly confidential and you will not be identified by name in any reports of the completed study. Your email address will only be used to re-contact you for subsequent phases of the research.

By selecting “I agree” below, you consent to be re-contacted. If you do not agree, you may still participate in this survey and we hope you will.

☐ I agree ---→ Email Address: [Text box]
☐ End Survey
## Appendix B: Phase 3 Interview Questions

<table>
<thead>
<tr>
<th>Basis for Interview Question</th>
<th>Interview Question</th>
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<tbody>
<tr>
<td><strong>Opening question</strong></td>
<td></td>
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<tr>
<td></td>
<td>• Tell me about your experience with local food in the Okanagan or Similkameen area.</td>
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<td></td>
<td>• Can you tell me about your role in the local food system in the Okanagan Similkameen Valley?</td>
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<tr>
<td><strong>Research questions: What are appropriate, valuable indicators of community social capital in the food system and how can those indicators be observed and measured?</strong></td>
<td>• Do you think local food systems impact communities? If so, how?</td>
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<tr>
<td><strong>Research question: What is the relationship between social capital and local food systems?</strong></td>
<td>• Do you think there is a relationship between participating in local food systems and building connections or social networks in the community? Why or why not?</td>
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<td>• What about between local food systems and building trust with others in the community?</td>
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<td></td>
<td>• Building reciprocity?</td>
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<td></td>
<td>• More volunteerism and engagement in the community?</td>
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<tr>
<td><strong>Research Question: How do local food systems impact community social capital?</strong></td>
<td>• Have you built a social network through your role or experience in the local food system?</td>
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<tr>
<td><strong>Derived from the survey results</strong></td>
<td>• Most people in the survey rated the effect of the local food system on their community as very positive and positive, do you agree? and why or why not?</td>
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<td>• Can you describe this effect?</td>
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<tr>
<td></td>
<td>• Most people in the survey agreed or strongly agreed that participating in local food systems builds relationship and connection between community groups, do you agree? Why or why not?</td>
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<td></td>
<td>• Can you describe this process?</td>
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<tr>
<td></td>
<td>• Most people in the survey agreed or strongly agreed that participating in local food systems builds trust and reciprocity between community groups, do you agree? Why or why not?</td>
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<tr>
<td>Derived from the survey results</td>
<td>• When the local population and the demand for food increases, do you think the future of the local food system will shift or change? What do you think the future will look like for local food systems?</td>
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<tr>
<td>Overview/summative question</td>
<td>• Through your experience with the local food system, overall do you think local food systems impacts social aspects of community?</td>
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