Integrating Food System Resiliency into Regional Planning Processes

A Major Research Paper

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Abstract

Regional governments in Canada are facing a number of complex decisions that will shape the future of their communities. How a regional government approaches its food system is one of these complex decisions. The food system is linked to all systems, including the regional economy. This research gathered information by looking at two Canadian case studies to provide regional governments and planners with ideas for strengthening and incorporating their food system into their planning processes. The key recommendations for incorporating food systems into regional planning include: discovering the importance of food to regional systems, ensuring that current policy does not inadvertently harm food or agriculture, determining what is needed in the region to support the system, taking on projects that will result in implementation, and steadily re-evaluating the role of the region and the local system components.

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Table of Contents

List of Tables and Figures

1. Introduction

1.1 Research Questions and Scope of MRP

Regional governments in Canada are facing a number of complex decisions that will shape the future of their communities. One of these decisions – how regional governments and planning departments engage with their food system – will determine the community's resiliency, the role that the agri-food sector plays in the regional economy, and how the planning system engages with the food system. In the face of climate change, rising oil prices, and disappearing farmland, this research focuses on gathering information that regional governments can use to increase their food system resiliency, while maintaining a focus on the local economy. Additionally, this work will investigate the role of the planning profession and the roles that planners themselves play within the regional food system. The underlying question guiding this research is "How can regions approach food system resiliency while maintaining a focus on local economic diversity?" with a sub-question of "How can planners be involved in food system resiliency?". The scope of this research will be a focus on regional governments, with a case study in both of the provinces of Ontario and British Columbia. The result of this research will be a major research paper, with the intention of later creating a related guide for regions that are interested in diversifying their local economies and increasing their food system resiliency.

1.2 What is food system resiliency?

Food system resiliency is a relatively new term that was created out of the need to distinguish between the common food systems terms described in Table 1. In this context resilience "is the ability of a system (person, community, ecosystem) to absorb shocks, stresses and changes while maintaining its essential function" (Tay & Penner, 2012). Each of the terms described in Table 1

(food security, food sovereignty, food self-sufficiency, and food system resiliency) are interconnected and share a number of motivations and action items.

Table 1: Definitions of common food system terms.

Term	Definition
Food Security	"When all people at all times have access to sufficient, safe, nutritious food to maintain a healthy and active life" (World Health Organization, 2013). Food security is often not concerned with where the food is grown, but that it is safe and accessible.
Food Self Sufficiency	"The ability of a specified area to provide [all food required] for its own needs" (McCallum, 2012).
Food Sovereignty	"The right of peoples to healthy and culturally appropriate food produced through ecologically sound and sustainable methods, and their right to define their own food and agriculture systems" (IPC Food Sovereignty, 2009).
Food System Resiliency	"The ability of [the food] system … to absorb shocks, stresses and changes while maintaining its essential function" (Tay & Penner, 2012).

A resilient food system has three main characteristics: a diversity of social, economic, and environmental activities; modularity in how these activities are connected to avoid interdependence; and continual feedback to maintain awareness of system operations and issues (Tay & Penner, 2012). In addition to these characteristics, a resilient food system requires two interconnecting components: a strong local food production sector, and access to the global markets to supplement the local system as need be. Both of these components require strong infrastructure to support preparing and transporting products to market and between communities. The current food system is much stronger in the second component (access to the global markets) than the first (local food production), although past events have raised awareness

about the delicacy of access to the global food market (Prakash & Giblert, 2011; US FDA, 2012). Therefore this work will focus mostly on how planners can enable and support the development of the local food production sector.

1.2.1 Food Systems: International and Local

One of the key pieces of supporting a resilient food system is having an understanding of the components that come together to create the food system. In its simplest terms, the food system can be described as everything that has to do with food; more precisely it can be described as:

> all biological processes … as well as the physical infrastructure involved in feeding a population: growing, harvesting, processing, packaging, transporting, marketing, consumption, and disposal of food and food-related items. It also includes the inputs needed and outputs generated at each of these steps. A food system operates within and is influenced by social, political, economic, and environmental contexts. It also requires human resources that provide labour, research and education. A food system is serviced from and interacts with the ecosystem in which it is located (FAO Food for the Cities, 2011, pg. 5).

The term 'food system' can also be used to describe the lifecycle of food at many scales. The global food system has a lifecycle which could include food that's grown on one continent, shipped to another for processing, and shipped to another for consumption. An extremely small scale food system could have a lifecycle where all stages of the food system occur on the same property. While the standard stages of the food system are referenced in the previous quote, Figure 1 visually displays the journey that food makes from start to finish.

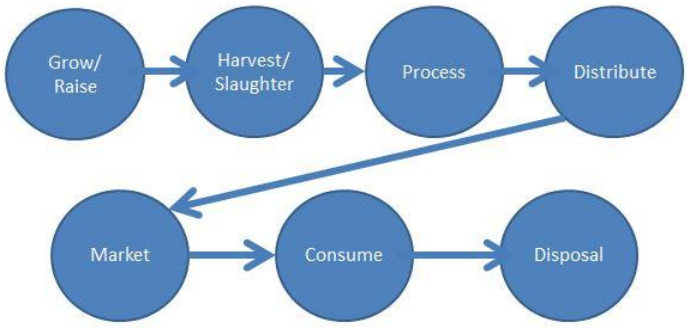

Figure 1: The average food system process.

A resilient local food system requires both a strong local food sector and access to the wider global food system. A resilient food system will bounce back quickly from stressors, but will not be infallible to them. This vulnerability means that the local system needs to be complemented by access to the global food system to ensure that starvation does not occur in times of system stress. Rather than advocating for entirely local food sources, a resilient food system attempts to halt the increasing reliance on imports (such as the 50% increase in Canadian imports between 2000 and 2010), and retain a more locally-focused food system (Canadian Agri-Food Policy Institute, 2011). Although there has been a surge in interest in local food systems over the last decade, the local food system is still currently much weaker than the global food system. This research seeks to identify steps that will enable planners to encourage the development of a strong local food sector and, in the process, create a diversified economy and a resilient food system.

1.2.2 What are some of the driving motivations?

The motivations surrounding food system resiliency are as multi-faceted as the food system is itself. Some of the most popular and pressing motivations are described in this section.

1.2.2.1 Climate Change

> *"Ontario needs to prepare for the twin challenges of a rapidly growing population and a less predictable future climate, marked by more extreme weather events and higher flooding risks"* (Environmental Commissioner of Ontario, 2011, pg. 57).

Climate change is one of the driving motivations in food systems resiliency. The increase in severity and frequency of extreme weather patterns has many communities realising that the way food is currently produced may not be possible in the near future, with crop yields being affected by as little as a 2° C change (CBC News, 2014). At the same time, 85.8% of surveyed Ontario

municipal governments consider themselves either "completely aware" or "somewhat aware" of climate change, making climate change a topic that has gained validity in local government decisions (Caldwell et al., 2011). For example, during July and August 2012 the United States experienced one of the most extensive droughts in 60 years, resulting in a harvest that amounted to only 74% of the predicted corn crop (Crutchfield, 2013). This less-than-predicted harvest resulted in increasing grain prices, with corn prices hitting record-high season-averages (Fyksen, 2013). Not long after in December 2012 and January 2013, Australia experienced a heat wave that broke most temperature records for the area and resulted in bushfires that destroyed "around 350,000 hectares of land … and thousands of livestock", driving home the fragility of the current food production process (Rourke, 2013).

1.2.2.2 Peak Oil

Shipping food around the world as part of the global food system consumes a large amount of oil and petroleum products. A study done in Waterloo Region, Ontario found that 58 commonly eaten foods travelled an average of 4,497 km before coming to rest on consumers' plates (Xuereb, 2005). All of the 58 items used in this study could have been grown in Waterloo Region; this makes the 4,497 km that the items travelled unnecessary, and illuminates the extent of our reliance on cheap transportation. While the concern about peak oil has diminished somewhat with the widespread use of fracking and natural gas, at some point these stores will peak and reignite discussions on how to use local resources to their fullest extent.

1.2.2.3 The Canadian Context

Canada offers an interesting circumstance: it is a leader in certain exports and could feed its population, yet imports much of its fresh food (Ngo & Dorff, 2009). These food products are often able to be produced locally, although it is often financially cheaper to produce them elsewhere. This means that the local production capacity is slowly being eroded as consumers 'vote' for imported produce with their dollars. This reliance on food imports makes the country

vulnerable to price changes and food shortages, and reduces the ability of the country to feed itself, as local farmland is developed, food production facilities are closed, and the remaining land base becomes inoperative and unsupported without the necessary infrastructure (McGriffin, 2010; Tsioumani, 2012). In contrast, resilient food systems develop food security, counteract the "just-in-time inventory approach" of most modern food outlets, develop food sovereignty, support local economies, and promote consciousness of the local environment (Sumner, 2012, pg. 5).

1.2.3 How is food system resiliency connected to local economies?

Food is the all-encompassing topic in our society, with connections to social well-being, health, the environment, and the economy. When the food system is consciously connected to the economy, a food-focused economy results. This type of economy "embrace[s] a regional integration of primary (production), secondary (manufacturing and processing) and tertiary (distribution and marketing) industries in order to extract the maximum economic value from resources produced locally" (McGriffin, 2010, pg. 13). Beyond the purely economic value, food system resiliency has spin-off benefits in community involvement, food security, increased food safety, and encourages healthy eating (Blouin et al., 2009). Local processing of agricultural products provides the opportunity for more value added production, and a larger share of the profits. This contributes to the local economy through employment, keeping profits local, and potentially makes the products more affordable to the local population (Sumner, 2012). While agricultural production historically played a more prominent role in rural economics, the sector still forms an important component of the rural economy accounting for an eighth of jobs in 2005 (Ontario Agriculture Sustainability Coalition, 2010). Additionally, the agri-food sector is currently the number one employer in the province of Ontario, and generates up to 40% of GDP in rural areas and 8% of Canada's total GDP (Ontrario Food Cluster, 2013; Research and Analysis Directorate, 2012).

Beyond primary-production economic activity, agri-tourism is a substantial economic generator. Investments in agri-tourism are beneficial to the vitality of a community. With every dollar that

is generated through farm income "an additional $2.40 [is] spent in the local agricultural economy", and with every job created "in the agricultural sector … an additional four jobs [are created] in the broader economy" (Southwestern Ontario Tourism Corporation, 2011, pg. 7). This means that community benefits increase as farmers earn a greater share of the profits from their products, with farmers earning an estimated profit share of up to ten times more through direct marketing than they would through indirect sales (Southwestern Ontario Tourism Corporation, 2011). This multiplier effect also means that for every dollar spent with local establishments, 45 cents is generated in local spending by the operator, while when that same dollar is spent in a large chain only 14 cents is generated in local spending by the operator (Institute for Local Self-Reliance, 2003; Milchen, 2014). The result of purchasing local products is more local profit generation and increased support to other local businesses within the community. The benefits for farmers, the community, and local tourism from agri-tourism ventures are widely distributed.

The food system is a pillar of society and the economy. It connects to tourism, primary industry, secondary industry, tertiary industry, the social economy, the cultural economy, international trade, high-tech development, food processing, transportation, and distribution. When the food system is strong, these economies are also strong.

1.3 The role of planners and the planning profession

The planning profession has been known to be on the forefront of new developments, and planning for food systems is no exception. Starting in the early 2000's awareness of the linkages between food and planning have steadily increased (American Planning Association, 2007; Goodman, 2003; Kaufman, 2004; Pothukuchi, 2004; Pothukuchi & Kaufman, 2000). However, despite its rising profile within the planning community, and advances such as zoning for farmers markets, urban chickens, and farmland preservation initiatives, there continues to be a missing component that can only be addressed by looking at food and agriculture through a systems perspective. As stated by the FAO Food for the Cities (2011, pg. 9) report, rural planning and urban planning represent "two complementary sides of the food system" that offer

a number of synergies for working together. In many planning conversations, food is thought of in terms of urban or rural, local or global. In addition to these compartmentalized conversations, many Canadian regional planning departments currently do not have an overall approach to address food systems within their jurisdiction. This research attempts to provide a starting place for discussions that break down these silos and address the food system as a holistic entity.

1.3.1 Why should planners be involved in food system resiliency?

The food system's interconnectivity with many components of our society has led many well intentioned planners to believe that food simply is not within their area. The common refrain is that it is a topic that would be better dealt with in public health or economic development. While these areas are also key players in working to increase food system resiliency, planners are vitally needed within these partnerships. Numerous articles and documents cite planners as being a necessary part of the local food system and the food system at large (Deloitte, 2013; FAO Food for the Cities, 2011; Moragues et al., 2013; OECD, 2010). This is because planners have the skill set and the ability to tangibly affect how regional food systems operate, including its level of resiliency, as shown through the number of connections displayed in Figure 2. Planners are the ideal professionals to catalyze interest in this area, because they are connected to a diversity of food system-related topics. For example, public health, environmental sustainability, natural heritage, conservation, economic development, First Nations, tourism, social networks, manufacturing, distribution, infrastructure, and education are all connected to and a part of a resilient food system. These areas, along with the more traditional domain of community planning and zoning by-laws, represent the realm of planning for food systems.

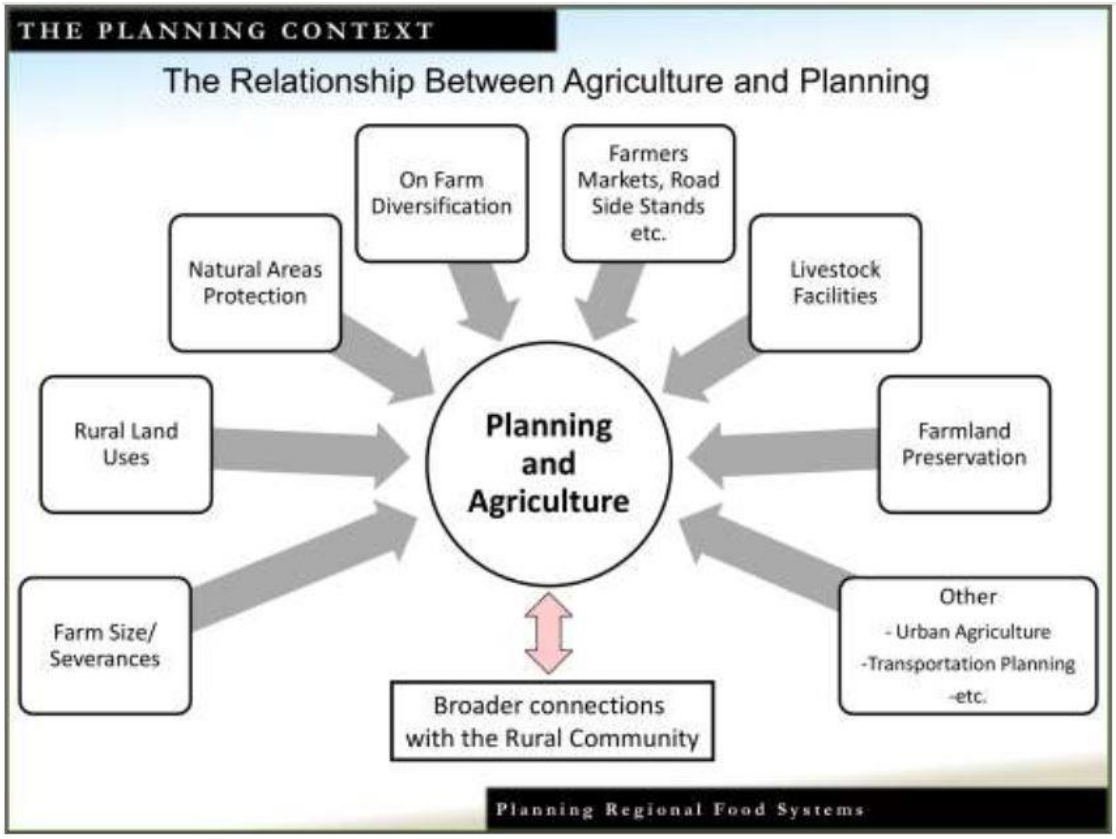

Figure 2: Connections between Planning and Agriculture (Caldwell, 2009).

1.4 Methods

This research has been conducted in a number of steps. First, a review of the literature determined the definition of food system resiliency, the motivation and need to address this topic, and to what extent the planning profession was currently engaged in the topic. Then a jurisdictional scan was completed to determine which regional governments would be selected for the two case studies. Ontario and British Columbia (BC) were selected as locations for study because they have vibrant agricultural and planning systems, comparable legal structures, and the resources to develop a strong food system.

The provinces of BC and Ontario are similarly unique in the Canadian landscape because of their urban influences, fertile agricultural land, productive growing climates, and large population bases. Within Canada, the southern communities in these provinces have the most favourable

conditions for a resilient food system, yet the current system still remains vulnerable. In BC the majority of agricultural production is located in the Fraser Valley and on southern Vancouver Island. Agricultural land in this province is protected by the Agricultural Land Reserve that was developed in 1973. In Ontario, the majority of agricultural land is in the southern part of the province, and is protected through the Provincial Policy Statement and the Greenbelt Act and Plan. Because these locations have a number of the components needed for a resilient food system, including productive growing conditions and well-connected transportation networks, they are the ideal places to begin focusing on achieving a resilient food system.

Niagara Region (Ontario) and the Capital Regional District (BC) were chosen as case study regions within each province because of their activity related to the topic and their comparability. While operating at slightly different scales, both regions play similar roles in their respective provinces and are comparable in that they both have urban populations, rural areas, a large senior population, access to markets and transportation, and have taken an interest in their food system.

After determining the locations, key regional planning documents and regional NGO (non-governmental organization) food system documents were gathered, analysed, and summarized. These documents provided the base for regional initiatives, approaches, and activities related to food systems. This was then supplemented by interviews with regional food system planning leaders to confirm and deepen the understanding of how food system resiliency is being approached in the area. From the documentation and interviews the practices and processes of each region were listed, and then analysed and compared. Along with the practices and processes, the regional gaps and barriers in planning for food system resiliency were analysed. From this analysis and discussion, recommendations were developed to fill gaps, remove barriers, and share knowledge of how planners and the planning profession can ensure that food system resiliency is included in regional planning processes.

2. Regional Municipality of Niagara (Niagara Region)

2.1 Context

The Regional Municipality of Niagara (henceforth known as Niagara Region) is located between Lake Ontario and Lake Erie, against Ontario's south-east US border, as shown in Figure 3. Niagara Region contains the major urban municipalities of St. Catharines (pop. 131,400) and Niagara Falls (pop. 82,997), along with ten others, totalling twelve lower-tier municipalities (Statistics Canada, 2014). Niagara Region has a population of approximately 431,345 (2011), with an estimated growth of 17.8% over the next twenty years (Niagara Region, 2014). 65.7% of that population is between the ages of 15 and 65, with a median age of 44.1 years (Statistics Canada, 2014). In 2006, 87.9% percent of the population was classified as urban, with an average household income of $54,497 (Niagara Region, 2014; Ontario Trillium Foundation, 2008).

Figure 3: Niagara Region and its municipalities (Niagara Region, 2014).

The Niagara Regional economy was built on transportation networks, with the first highway, the first stagecoach service, the first railroad, and the first electrified streetcar in Upper Canada occurring in this area between the late 1700's and the mid-1800's (Niagara Peninsula, 2014). Today's economy focuses on manufacturing, tourism, agri-business, and advanced technology

(Niagara Economic Development Corporation, 2010). Agriculture plays an important and varied role, as described in the following quote:

> Agriculture is an important industry in the Region. Fruit and vegetable crops, poultry, livestock, greenhouse products and general crops are large categories of agricultural production. The fruit-processing industry and the wine industry are two important secondary industries which depend on a viable agricultural industry. There are approximately 2,700 farms of various sizes and types in the Region (Niagara Region, 2014).

In terms of food system resiliency, Niagara Region has much of the infrastructure and natural resources needed to develop and support a thriving system. There is a strong local food production component, as well as an expansive network connecting Niagara Region to the world. The major food system challenge for this area will be to balance the different types of agriculture (for example, high value wine grapes with fresh fruit or market vegetable production), and to limit urbanization.

Local government in Ontario is organized hierarchically into upper-tier municipalities and lower-tier municipalities. Upper-tier municipalities are regional or county governments, while lower-tier municipalities are described as towns, cities, townships, districts, etc. Each tier has distinct responsibilities, as laid out in the *Municipal Act* (2001); however, there are opportunities for upper-tiers to delegate powers to, or assume powers from, the lower-tiers. In addition to the upper-tier and lower-tier governments, there are eleven single-tier municipalities, where one government assumes the role of both the upper and lower-tier functions (Association of Municipalities of Ontario, 2013). Regional and county governments differ in terms of their relationship with their lower-tier municipalities, their responsibilities, and the resources available to them; however, for the purposes of this paper all upper-tier municipalities will be referred to as 'regional'. These regional governments prepare an Official Plan (OP), which the lower-tiers must conform to. Lower-tiers may also prepare their own OPs or they may elect to use the upper-tier OP. The lower-tier municipality then prepares and enforces its zoning by-law which conforms to the OP that they are using. While there is feedback from the lower-tiers to the upper-tiers, in general, it is a hierarchical relationship.

2.2 Key Documents in Niagara Region

2.2.1 Regional Policy Plan

The Region Policy Plan is Niagara Region's primary planning document which guides policy decisions at the lower-tiers. This plan is broken down into twelve policy chapters; policies within seven of the twelve chapters are related to agriculture, including the "Regional Strategy for Development and Conservation", "Economic Development and Tourism", "Urban Areas", "Agriculture and Rural Areas", "Natural Resources and Environmental Areas", "Transportation", and "Implementation" (Niagara Region, 2014).

This policy plan was notably amended in 2009 with Policy Plan Amendment 6-2009 which focused on encouraging and enabling value added policies for agriculture. This amendment was created to "encourage the growth of a diversified, profitable and sustainable agricultural industry in Niagara" while specifically "support[ing] and attempt[ing] to expand the ability of Niagara's farmers to develop agricultural value added activities in agricultural areas" (Niagara Region, 2009, pg. 1). The amendment included new definitions for a number of food and agriculturally related terms. The definition for 'agricultural uses' now includes: "the growing of crops, including nursery and horticultural crops; raising of livestock; raising of other animals for food, fur or fibre, including poultry and fish; aquaculture; apiaries; agro-forestry, maple syrup production; and associated on-farm buildings and structures, including accommodation for full-time farm labour when the size and nature of the operation requires additional employment" (Niagara Region, 2014). Other notable definitions include:

- farm diversification ("a range of uses that are designed to expand the range of economic opportunities available to farmers and is a generic reference to value added, agriculturally related and secondary agricultural uses that may not be directly related to the agricultural activity conducted on the farm property"),
- value retention ("uses occurring on-farm that are considered integral to an agricultural operation and integral to retaining the value of raw agricultural products … including

research and maintenance and management of equipment, and … washing, sorting, drying, packing, packaging and similar uses"), and

- value added ("uses that generally occur on-farm which add value to agricultural products and their sale and distribution and are intended to promote and sustain the viability of farming operations") (Niagara Region, 2014).

Additionally, this amendment allows farmers to use products from neighbouring farms for value added activities on their own farm, whereas farmers previously were required to have their own facilities. These changes allow farmers to share equipment, "reflect[ing] the cooperative character of farming in Niagara where smaller farmers take advantage of processing and often marketing facilities on larger farms" (Niagara Region, 2009, pg. 5). Other changes accepted in this amendment include allowing site-specific adaptive reuse and site-specific farm diversification activities, such as using a barn as a banquet hall or engaging in green energy production.

The Regional Policy Plan and this 2009 amendment were developed in accordance with the following principles:

- "The right to farm is paramount.
- The protection of the agricultural land base is fundamental.
- The purpose of allowing farm diversification and value added uses is to improve financial returns for farmers.
- The integrity of the agricultural area for farming must be protected.
- Policies should enhance the ability to farm successfully without conflicts.
- Value retention is an intrinsic part of production and addresses the requirement for "market ready" products and is part of the primary agricultural use.
- Value added activities should add value to a product without detracting from the primary agricultural function.
- Secondary uses and diversification is desirable to enhance income but must not detract from the primary agricultural function.
- Creative re-use of properties and buildings permits retention of elements of the rural countryside without detracting from production.

- Lot creation for non agricultural uses should be prohibited but use of existing undersized lots for agriculturally related functions should be considered in controlled circumstances.
- Value added uses include accessory, farm related uses and secondary uses.
- Controls on scale and impact are important to protecting primary production but can vary depending on the nature of the area and the municipality." (Niagara Region, 2009, pg. 3-4).

2.2.2 Local Food Action Plan (2008)

This document was created by Niagara Region to "outline actions that need to be taken to support, enhance, and promote our local food products to ourselves, our neighbours, and beyond" (Niagara Region, 2008, pg. 5). This plan is primarily a community-based implementation document with twenty actions defined under four key themes, which include: information resources and research, local food network and infrastructure, education and raising awareness, and supportive policy and funding (Niagara Region, 2008).

One of the difficulties that the Region encountered in the development of this plan was defining what 'local food' meant. The task force and stakeholders were unable to come to a consensus on the true definition of 'local', with the resulting actions reflecting a scale of localities. Each action was defined and included: a current status, suggested tasks, a timeline, a responsible party, a priority, and a difficulty level (Niagara Region, 2008). The highest priority actions listed in this plan include:

- "Research, compile, and provide advice on crop yields, seasonality, new products and needs of market for producers.
- Assess the strengths, weaknesses, opportunities and strengths of the local food network in Niagara and work to improve the existing condition.
- Investigate expansion of existing distribution outlets and the feasibility for a Niagara Distribution Centre for local food products.
- Increase consumer access to local food products.

- Educate consumers about local food products - how to find, grow or prepare them and where to purchase.
- Educate producers about the changing needs/desires of the market, and other means and methods of farming.
- Create a comprehensive marketing campaign surrounding the promotion of Niagara local food products. The target audience would be both within and outside Niagara.
- Review and refine policies or practices (where possible) that hinder the production, processing or distribution of local food.
- Support and promote local food efforts in Niagara through the creation of a comprehensive plan or strategy.
- Develop, offer and promote financial programs for producers and processors." (Niagara Region, 2008).

This document is intrinsically linked with agriculture in the Region and speaks to the desire of the Region to support their local food system at a variety of scales. The Region defines their role in this document as one of leadership in order "to coordinate and facilitate a diverse group of stakeholders to communicate and work together to implement and make the actions come to fruition" while creating supportive policy (Niagara Region, 2008, pg. 8). Many of these actions have been implemented by the Region, community groups, and individual actors, with the Region acting as a facilitator and supporter of community-based action (Donia, 2014).

2.2.3 An Update to the Regional Municipality of Niagara Agricultural Economic Impact Study (2010)

The Agricultural Economic Impact Study was first conducted in 2003 and used 2001 census data to determine and explain the importance of the agricultural sector in the regional economy. This study found that agriculture was a "very significant component of the local economy and [had] a major economic impact on the Regional and Provincial economies" (Planscape, 2003, pg. 7). In 2006 the next census was released, and in 2010 an update to the original report was published. Some findings from the updated study include:

- Almost half of the agricultural economic impact resulted from the "re-spending of wages earned through direct and indirect" industries (Walton, 2010, pg. 65).
- "Average farm size increased from 103 acres to 104 acres but was still well below the provincial average of 233 acres" speaking to the high value of crops in the region (Walton, 2010, pg. E2).
- The agricultural economic impact in 2006 from agriculture included:
    - "$2.4 billion in gross industry output across all industries in the Region;
    - $814 million in GDP or value-added; and,
    - $454 million in labour income" (Walton, 2010, pg. E3).
- The 2006 agricultural economic impact increased by "approximately $700 million" from the 2001 agricultural economic impact (Walton, 2010, pg. E3).

The Region is currently in the process of producing a third update, based on the 2011 census, to be released in April 2014 (Donia, 2014). This edition of the study goes beyond the agricultural economic impact in Niagara Region, and also includes the agricultural economic impact in the Greater Golden Horseshoe (the sub-region of Southern Ontario which includes the agricultural areas surrounding Toronto) in order to understand the comprehensive impact of agriculture on the economy (Donia, 2014).

2.2.4 Agricultural Action Plan (2006)

The Agricultural Action Plan was created to describe the "most effective bundle [of actions needed] to realize [the Region's] goal to grow the industry" (Planscape, 2006, pg. 5). The creation of this plan was inspired by the results of the Regional Agricultural Economic Impact Study which stated that the agricultural sector was healthy, but pointed to a "vulnerability of the land base, … pressure from foreign competition, … discrepancies in service levels, costs of inputs, access to services and delays at the border,… [along with] pressure for urban expansion" (Planscape, 2006, pg. 5). The seven action areas developed in this plan include:

1. "Re-establishing the research capability of the Vineland Research Centre to support the agricultural industry.

2. Reducing barriers to growing the agricultural industry with recommended solutions.
3. Specific tax policies for value added facilities as part of the farm operation.
4. Providing raw water for agriculture.
5. Developing small and medium processors.
6. Re-visiting the use of the Agricultural Easement program of the earlier 1990's program entitled the "Niagara Tender Fruit Lands Program".
7. Developing a Niagara brand for agricultural products – quality products, quality farms, quality environment for community health." (Planscape, 2006).

Each of these action areas has a number of specific actions to support it. At this time some of the actions have been implemented, while the remaining actions will be incorporated into the Region's current project, described in Section 2.2.5 (Donia, 2014).

2.2.5 Current Project

Niagara Region is currently beginning the process of bringing together the Local Food Action Plan and the Agricultural Action Plan to create a food strategy that addresses the entire food chain (Donia, 2014). This project will address production, value added, storage, distribution, marketing, and disposal, along with including topics such as public health, social health, and food accessibility (Donia, 2014). The desire of this project is to capitalize on the Region's assets through determining how to better serve the agricultural community, better support agricultural incentives, and stimulate economic development to encourage further growth with the help of an agricultural Community Improvement Plan (Donia, 2014). This strategy is intended to bring all aspects of the food system together in order to better serve all constituents, while building upon successes and lessons that have been learned (Donia, 2014). The document is expected to be released in late 2014 or early 2015.

2.3 Lower Tier Highlights

Niagara Region's policies have manifested in the lower tiers through an increased focus on food and agriculture as economic drivers. One example of linking agriculture and the local economy in a lower-tier takes place in St. Catharines. Niagara Region is known for its wine culture, which draws a number of tourists to the area. As a part of this, a wine route has been devised for tourists to follow through the wine region, with the route planned to go directly through the downtown core of St. Catharines. This area is urban and does not include any wineries, but the route was planned this way to take advantage of the significant tourism traffic (Fraser, 2012). This recognition of the tourism value of productive agriculture creates an economic link between agri-tourism and downtown urban renewal, creating a win-win situation for both interests.

Another example of a lower-tier municipality responding to the Regional Policy Plan is the Township of West Lincoln. In 2010, one year after the Region amended their Regional Policy Plan, West Lincoln amended their Official Plan in order to be more supportive of the agricultural industry through the following objectives:

a) "To promote a viable agricultural industry for the production of crop resources and livestock operations to enhance employment opportunities and strengthen the economic wellbeing of West Lincoln.
b) Support a pattern of agricultural land holdings that increase the flexibility of agricultural operations and avoid the fragmentation of land ownership.
c) To promote small scale secondary uses and agriculture-related uses that are compatible with and do not hinder surrounding agricultural operations.
d) To minimize the impact of non-farm uses on the agricultural area by encouraging incompatible uses to locate within designated settlement areas, and hamlets.
e) To promote, where feasible, opportunities for agricultural related value added activities to support, promote, and develop the agricultural areas." (Township of West Lincoln, 2010, pg. 15).

This amendment incorporates and embraces the spirit of the Regional Policy Plan, and is supportive of the notion of enhancing the food system.

2.4 Practices and Processes

The Niagara Region planning department engages in a number of practices and processes to support food system resiliency. These practices and processes were identified through examining regional documents and interviewing Terri Donia (Niagara Region), and will be examined and discussed in this section.

2.4.1 Practices

A practice is defined as "the actual application or use of an idea, belief, or method, as opposed to theories relating to it" (Oxford University Press, 2014). Practices that are present in Niagara Region and relate to food systems include:

- Participating in research to inform regional actions – The Local Food Action Plan speaks extensively to the importance of food systems research. Research topics include:
    - what's needed for the "long-term financial viability of local food production and processing",
    - information on "crop yields, seasonality, new products and needs of [the] market for producers",
    - defining "the local food network" with a "database of producers, processors, and distributors",
    - creating "a comprehensive listing of information on availability and seasonality of local food products",
    - the state of the current food system and what's needed to improve it, and
    - "investigat[ing the] expansion of existing distribution outlets" including feasibility assessments (Niagara Region, 2008).
- Prioritizing food system education – Topics that have been prioritized include educating producers about "the changing needs/desires of the market and other means and methods of farming", offering "opportunities for future producers through training, apprenticeships, and incentives", and educating the public about local food production in

Niagara, including how to purchase and use local products, the "social and physical health benefits of local food", and food-related activities in school programs (Niagara Region, 2008).

- Local purchasing policies – Supporting the local food system by participating as a consumer (Niagara Region, 2008).
- An inclusive definition of agriculture – The Region's definition of agricultural uses is inclusive and permits "associated on-farm buildings and structures, including accommodation for full-time labour" (Niagara Region, 2014).
- Defining agriculturally-related activities – The Regional Policy Plan includes definitions of farm diversification, value retention uses, value added uses, and adaptive re-use which contribute to a comprehensive understanding of what is required to support the food system (Niagara Region, 2014).
- Being an advocate for the agricultural industry – The Region states that it will "advocate and support government policies and programs which promote the agricultural industry [and protect the] farmers' right-to-farm by minimizing the introduction of incompatible land uses within the agricultural areas" (Niagara Region, 2014). This includes advocating for Provincial and Federal programs, and stepping in where support is needed (Niagara Region, 2014).
- Considerations of flexibility – Providing "different regulatory provisions" to allow each lower-tier the flexibility to design policy that reflects their local circumstances and desires (Niagara Region, 2014).
- Encouraging farm diversification – Encouraging farmers to diversify in ways that complement the principal agricultural use. Farmer resiliency is increased by permitting "those agricultural[ly] related value added and secondary uses that complement farming activities and provide for increasing the economic value and consumer appeal of an agricultural product or use" (Niagara Region, 2014).
- Permitting adaptive re-use of agricultural heritage buildings – This allows the farmer to diversify while continuing to work within agriculture. This also encourages the public to visit these settings and become more exposed to agriculture.

- Urging caution in agricultural areas - Planners are urged to carefully apply the policy in cases of speciality crop areas, due to the "intensive nature of speciality crop farming, and the significance of this agricultural land base" (Niagara Region, 2014).

2.4.2 Processes

A process is defined as "a series of actions or steps taken in order to achieve a particular end" (Oxford University Press, 2014). Processes that are currently occurring, or are proposed to occur in Niagara Region that relate to food systems include:

- Repeatedly evaluating the role Niagara Region plays in the food system – This includes reviewing policies and practices to ensure that they don't "hinder the production, processing, or distribution of local food"; reviewing "tax policies to encourage the production, process, and distribution of local food"; and supporting local food through "local food related festivals and events", the proposed "creation of a comprehensive plan or strategy" and the proposed development of "financial programs for producers and processors" (Niagara Region, 2008). There also appears to be a steady stream of initiatives and projects related to food and agriculture in the Region, speaking to the continual involvement of food and agriculture in Regional processes.
- Viewing the food system as part of all systems – Agriculture and/or food is mentioned in seven of the twelve chapters of the Regional Policy Plan, being referred to in tourism, highways development, urban containment, and marketing. This confirms that agriculture and food is a part of all regional policy and planning processes, including the regular consultation of the Regional Agricultural Policy and Action Committee (Niagara Region, 2014).
- Breaking motivations into components – The Region goes beyond stating that they will "advocate and support" the agri-food sector and its competitiveness by breaking this motivation down into seven components, including:
    - "the protection of unique and good general agricultural lands;
    - tariff and, or, quota protection from imports … ;
    - adequate marketing procedures … ;

    - protection from unjustified taxes … ;
    - financial support to local agricultural groups … ;
    - support [for] farmers seeking approval for loans from lending agencies for additional farm residences in order to eliminate the need for severances; and
    - the continuation of the existing Agricultural Sub-Committee to advise the Region on agricultural issues" (Niagara Region, 2014).
- Using agriculture to define urban planning – Many of the practices and policies in the Regional Policy Plan use agriculture as justification for the location of new infrastructure, the limits of urban areas, and encouraging urban density through measures such as parking requirements that "ensure that an adequate, but not excessive, amount of parking space is provided" (Niagara Region, 2014). Agricultural considerations seem to be an important part of many different planning processes, including aggregate resources. Many of these processes also see agricultural land as serving multiple purposes including education, tourism, production, and natural heritage.
- Analysing the economic linkages of agriculture – Both the 2003 and the 2010 update of the Regional Municipality of Niagara Agricultural Economic Impact Study go through the process of determining what role agriculture plays in the local economy. By participating in this process, planners have data that supports their actions and encourages the development of further practices. This process has been engaged in three times, with the release of the 2001, 2006 and 2011 Census of Agriculture and is likely to occur with subsequent releases. This evaluation creates a baseline analysis of the industry, how it is changing, and what the current role of the industry is in the local economy.

2.5 Food System – Economic Connection

The food system connection to the economy is very strong in Niagara Region. According to the studies done on the agricultural economic impact, the importance of agriculture to Niagara's economic stability can be conveyed through this quote:

> For most industries in Niagara (including all components of the agricultural cluster), a one dollar increase in the demand for their output will translate into more than two dollars in output response across all linked industries in the economy … Every dollar of output from Niagara's agricultural cluster therefore simulates a total impact in excess of $2.00 in the Niagara economy (Walton, 2010, pg. 62).

In the region, the greenhouse sector was found to have the most economic impact, causing more than double the impact of the next three leading sectors (poultry, grapes, and tender fruits) (Walton, 2010). Between 2001 and 2006, the economic impact of the agri-food sector grew by almost $700 million (Walton, 2010). The strength of theses linkages varies depending on the area of the Region. These statistics help to describe the immense value that agriculture has in the Niagara Region and the economic importance of the agri-food sector.

3. Capital Regional District (CRD)

3.1 Context

The Capital Regional District (CRD) is located on the southern tip of Vancouver Island, BC, and contains the major urban centre of Victoria, along with fourteen other municipalities/electoral areas, as shown in Figure 4 (BC Ministry of Agriculture and Lands, 2001). The CRD has a population of 359,991 (2011), with an estimated growth of 31% by 2038 (Planning and Protective Services Deptartment, 2009). 68.2% of that population is between the ages of 15 and 65, with a median age of 44.8 years (Statistics Canada, 2014). In 2006, 90% of the population was classified as urban, with an average household income of $69,583 (BC Ministry of Agriculture and Lands, 2008; Statistics Canada, 2014).

The CRD economy was built on trading, with Victoria being a common supply stop for frontiersmen heading to the Yukon gold rush. Today's economy focuses on "government, tourism, health and education" (Capital Regional District, 2010, pg. 1). Agriculture plays a less important, but still significant role, and tends to focus on field crops, poultry, beef, and sheep/lamb (BC Ministry of Agriculture and Lands, 2001).

In terms of food system resiliency, the CRD is currently limited by the amount of infrastructure and natural resources available to develop and support a thriving system. However, there is a longer growing season than in much of Canada, and strong local enthusiasm, with food sustainability being the number one publicly-voiced priority (Masselink, 2014). The major challenge for this area will be to take that local enthusiasm and turn it into policy, while balancing land resources with urbanization.

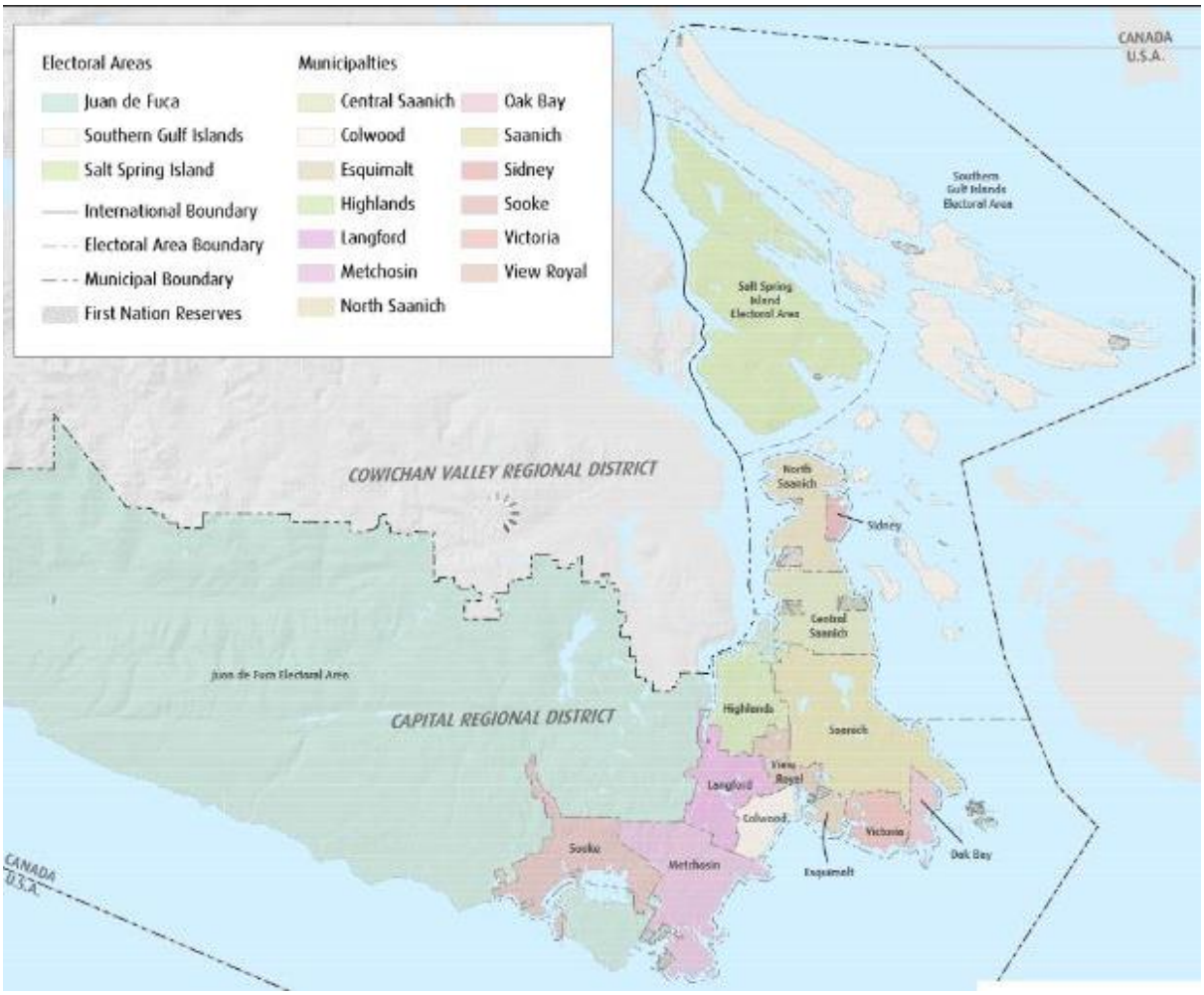

Figure 4: The Capital Regional District and its municipalities (Capital Regional District, 2013).

In BC, local government is split into regional governments and municipal governments (including electoral areas). The responsibilities of each are different, as laid out in the *Local Government Act* (1996), and there are no county or single tier governments. The CRD and its thirteen municipal governments and three unincorporated electoral areas form a cooperative partnership to plan for the jurisdiction (BC Ministry of Agriculture and Lands, 2001). This relationship is supported by the *Local Government Act* (1996), which requires regional governments to create a Regional Growth Strategy (RGS). This growth statement is "an agreement between a regional district and its member municipalities to guide decisions about growth and development over a 20 year time frame by coordinating local government action on a range of issues that include housing, transportation, urban containment, the green infrastructure,

and economic development" (Curran, 2009, pg. 19). The RGS is reviewed every five years and is used by municipalities to inform their Regional Context Statements (RCS), which connect the RGS to the municipalities' Official Community Plans (OCP) (Curran, 2009). The regional bylaws, municipality RCSs and OCPs must be consistent with the RGS (Curran, 2009). Although consistency is required, the RGS "provides the framework for inter-jurisdictional planning, using a system that is cooperative, rather [than] hierarchical or prescriptive" (Capital Regional District, 2008, pg. 2).

3.2 Key Documents in the CRD

The following section describes key planning documents in the CRD that have some connection to food systems or food system resiliency. While many of the documents are written or supported by the CRD, a percentage of them have been written by the Capital Region Food and Agriculture Initiatives Roundtable (CR-FAIR) who appears to have taken on the leadership role in planning for CRD food systems. CR-FAIR a subset of the Community Social Planning Council and is made up of a number of food and agriculturally related organizations including: the Certified Organic Associations of BC, the City of Victoria, the Community Social Planning Council of Greater Victoria, Island Chef Collaborative, Direct Farm Marketers Association, the Ministry of Agriculture, the North Saanich Agriculture Advisory, and the Vancouver Island Health Authority, and others, totalling 24 members (Community Social Planning Council, 2014). The CRD is not a formal member of CR-FAIR, although it does sit on the Community Social Planning Council and partners with CR-FAIR on many projects.

3.2.1 Regional Growth Strategy

The most important regional planning document in the CRD is the Regional Growth Strategy (RGS). This document is "an agreement between a regional district and its member municipalities to guide decisions about growth and development over a 20 year time frame by

coordinating local government action on a range of issues that include housing, transportation, urban containment, the green infrastructure, and economic development" (Curran, 2009, pg. 19). The *Local Government Act* (1996) "explicitly states that an RGS should work towards 'maintaining the integrity of a secure and productive resource base, including the agriculture land reserve'" and "can contain strong policies of support for maintaining existing agricultural lands and the farm economy" (Curran, 2009, pg. 20).

The CRD's RGS is broken down into five initiatives that are further broken down into eight components. The five initiatives include: managing and balancing growth; environment and resources; housing and community; transportation; and economic development. These initiatives include the strategic aims of:

- "keep[ing] urban settlement compacts; protect[ing] the integrity of rural communities;
- protect[ing] regional green/blue spaces; manag[ing] natural resources and the environment sustainably;
- build[ing] more complete communities;
- improv[ing] housing affordability;
- increase transportation choice; and,
- strengthen[ing] the regional economy" (Capital Regional District, 2003).

The sections with the most relevance to food system resiliency could be 'managing and balancing growth'; 'environment and resources'; and 'economic development'; however, in the 2003 RGS, most of the relevance is related to farmland preservation through urban containment.

The CRD requires "a minimum of 90% of the region's cumulative new dwelling units to 2026" to be located within the Regional Urban Containment and Servicing Area (Capital Regional District, 2003, pg. 10). The majority of food system related policies in the RGS refer to creating compact urban communities, reducing sprawl, and limiting growth on "renewable resource lands" (Capital Regional District, 2003). The "renewable resource lands policy area includes lands within the [provincial] Agricultural Land Reserve, the Forest Land Reserve, and Crown Forest Lands" (Capital Regional District, 2003, pg. 11).

There are limited references to food systems within the RGS, as this document primarily focuses on agricultural land protection. However, the RGS also included a reference to conducting "a review of long term strategic resource needs in the Capital Region – including food (paying specific attention to local food production), energy, water, and aggregate materials" (Capital Regional District, 2003, pg. 16). With the project proposed to "investigate long term demand, security of supply, potential impacts of factors such as long term climate change and fossil fuel depletion, and make policy and program recommendations to ensure that future needs are successfully anticipated and met" (Capital Regional District, 2003, pg. 16). This review began in 2008 and will be discussed more in Section 3.2.3.

Additionally the RGS also included the agreement "to participate with member municipalities and a broad cross section of business and community interests in the preparation and establishment … of a Regional Economic Development Strategy consistent with the Regional Growth Strategy. Possible strategic directions include … actions to support agriculture including finding fair and effective ways to improve irrigation water supplies and access to nutrients, to investigate recycling of wastewater for agriculture and horticulture, and to promote the economic potential of expanded local and export markets for farm products" (Capital Regional District, 2003, pg. 22). This initiative was undertaken and a blue-print was developed; however, the product focused on the downtown core of the City of Victoria and neglected the economic development potential of the rest of the Region (Weightman, 2014). As such, the blue-print was not adopted by the CRD Board; the current strategy is further addressed in Section 3.2.3 (Weightman, 2014).

3.2.2 State of the Region Report (2008)

As mentioned in Section 3.2.1, the Regional Growth Strategy must be reviewed every five years. The RGS was adopted in 2003, marking 2008 and 2013 as review years. The State of the Region Report is the result of the 2008 review, while the 2013 review results are not currently public. The 2008 report found that while there were extensive policies related to the Regional Urban Containment and Servicing Policy Area in the RGS, "the relationship between the Regional

Urban Containment and Servicing Policy Area boundary and the servicing restriction has created significant concerns among the member municipalities and has resulted in actions (or inactions) which have diminished the rationale for establishing a containment boundary" (Capital Regional District, 2003, pg. 14). Additionally, "in several instances the boundary has simply made servicing challenging; it has not prevented the continuation of sprawl development" (Capital Regional District, 2008, pg. 14). This document did not contain any other suggestions for how to proceed with dealing with these issues, and did not have a strong focus on food systems or food system resiliency.

3.2.3 Food System Sustainability Sub-strategy (2014) and Food Security Policy Brief (2010)

The 2008 review of the RGS has led to revising the RGS as a "Regional Sustainability Strategy (RSS) [which] will use the RGS as a base, increasing its scope to provide leadership and direction on climate action, social well-being and food security in addition to its current topic areas", with the RSS intended to be released in May 2014 (Capital Regional District, 2014; Weightman, 2014). This RSS will have a new strongly worded economic development section, which will act as a new mini economic development strategy for food and agriculture, and resolve the issue of the downtown core focus in the previous strategy, as mentioned in Section 3.2.1 (Weightman, 2014). Additionally, the RSS will have a Food System Sustainability Sub-Strategy which will explore new ideas and try to address some of the issues that farmers are currently facing, such as drainage, cheap water, expensive land, wildlife damage, soil quality, and storage, processing, and distribution centres (Weightman, 2014).

The Food Security Brief was created by the CRD as part of their move towards the RSS. The brief includes a description of the things that have happened in the CRD (although not necessarily with formal CRD endorsement) between 2003 and 2008 and contains references to the Regional Growth Strategy, the development of the Regional Food Charter, and development of the Regional Food and Health Action Plan. The document also contains a number of policy options for the RSS. These options are broken down into goals, status quo policies, moderate

policy change options, and significant policy change options. The goals in this document describe many of the factors that would make up a resilient food system.

The Food Security Brief followed the traditional planning process and developed a set of recommendations. However, the agri-food sector in the CRD is fairly fragmented and diversified, leading to push back from the community when food and agriculture was only dealt with in one way (Masselink, 2014). This work brought forward many positive ideas, but did not have agreement on how to move forward into implementation (Masselink, 2014). The first step in moving beyond this brief was to convene a team of leaders in the food and agriculture sector, including elected officials, farmers, business people, representatives from all levels of government, and activists (Masselink, 2014). The conversation started in December 2013, and began to build agreement for the first time in a very territorial community that is "defined by scarcity" (Masselink, 2014).

The process that was developed for this sub-strategy came about through a conversation with a local farmer, who was talking about how it was difficult to find time to actually farm with all of the distractions taking place (such as drainage issues, wildlife issues, engagement processes, etc.). This farmer stated that if he could have one issue dealt with by the CRD it would be drainage, as there are a number of low-lying areas that receive water from upland developments (Masselink, 2014). The farmer said that if the CRD took care of this issue, it would send a signal through the farming community and show them that the CRD cares about agriculture (Masselink, 2014). Drainage was an issue that was solvable, and inspired the idea of identifying a number of solvable issues that, if completed, would build relationships and trust, instead of designing a new high level vision and plan (Masselink, 2014). This idea was based on engaging in work rather than talking about work; and through that work building confidence that the food system could be successfully supported.

These solvable issues were identified in three categories: large scale rural, urban, and first nations (Masselink, 2014). The projects are currently being reviewed and discussed throughout the core team's networks to build agreement on how to move forward. The results of the identified projects are planned to be released in May 2014, after which they will begin being implemented (Masselink, 2014).

3.2.4 Food Charter (2008)

This document is written by CR-FAIR and contains sixteen actions that form a food charter for the region. The intention of this document is to list a number of principles and actions that will help individuals and organizations achieve the goals of food system resiliency and food security. The document includes an endorsement agreement and calls upon all "individuals, organizations, business and community associations, institutions, authorities, and local and regional governments in BC's Capital Region" to "develop and promote food security" (CR-FAIR, 2008, pg. 3). The sixteen actions that are listed to support this goal include:

1. "Promote and support the right of all residents to healthy food.
2. Advocate for income, employment, housing, and transportation policies that support access to food.
3. Promote eating locally grown food as a way to increase consumption of fresh foods, reduce "food miles" and increase local economic stability.
4. Protect productive farmland in our region and support strategies to make it accessible for farming.
5. Protect our fresh water and marine ecosystems and promote sustainable harvesting practices.
6. Ensure appropriate quality and supply of water for agricultural and home use.
7. Promote convenient access to healthy and affordable foods at the neighbourhood level.
8. Work with consumers, municipalities, and institutions to promote healthy food purchasing practices that support local farm and food businesses.
9. Promote partnerships and programs that support rural-urban food links through farmers' markets, the Box Programs and other rural urban initiatives.
10. Support incentives to enhance environmental values, and recognize the multifunctionality of farms.
11. Support and encourage urban agriculture through community gardens, backyard and rooftop gardens, and city fruit trees.
12. Support strategies for regional waste disposal and composting systems that recycle nutrients for regional food production.

13. Support training and income-generating programs that promote farming and food security within a community economic development model.
14. Support health and nutrition promotion strategies that encourage and increase the health status and self-reliance of all members of the population.
15. Work proactively to achieve these goals through the Regional Food and Health Action Plan as well as support a regular community food security assessment on the Capital Region's progress towards food security.
16. Work proactively to achieve and support a Regional Food Council to support planning, policy and ongoing decision making in support of this Regional Food Charter." (CR-FAIR, 2008, pg. 3).

This document covers all aspects of food system resiliency, with the exception of infrastructure and access to a global food network, therefore relying heavily on the local food system production. The actions in the document will also be incorporated into the CRD Food System Sustainability Sub-Strategy (Weightman, 2014).

3.2.5 Food and Health Action Plan (2008)

CR-FAIR, the CRD Round Table on the Environment, and the Vancouver Island Health Authority came together in 2008 to create a Food and Health Action Plan to enhance economic viability, environmental sustainability, community resilience, food security, and population health within the Region (CR-FAIR and CRD RTE, 2008). The priority actions that came out of this plan include:

- "Protect Farmland - Through the Regional Growth Strategy, Official Community Plans, Area Agriculture Plans, zoning and bylaw changes.

- Encourage Innovation and Diversity in the Industry - Through the Regional Growth Strategy, Official Community Plans, Area Agriculture Plans, zoning, bylaws, and investment in innovation in the areas of primary production, on-farm services, food manufacturing, alternative distribution channels, and novel marketing options.

- Meet Climate Change Obligations - Through land and water protection, waste stream management, the provision of ecological goods and services, and reduced "food miles".

- Strengthen Food System Infrastructure and Organizations - By building new links within the supply chain, strengthening information exchange, increasing organizational capacity, linking government to community, and conducting outreach and education campaigns.

- Improve Population Health and Regional Food Security - By building capacity for residents to access healthy diets and food resources, through partnerships with the Vancouver Island Health Authority (VIHA), Regional and Municipal Governments, First Nations, emergency food providers and community agencies.

- Establish a Food Policy Council - To monitor regional food security and advise the CRD and local governments on food system issues, to coordinate the implementation of the FHAP, and to link government, industry and community with other food system stakeholders and communities." (CR-FAIR and CRD RTE, 2008, pg. 3-4).

Of these priority actions, establishing a Food Policy Council is the highest priority. This council is proposed to be "a permanent body, potentially attached to the CRD, with a membership that reflects the full range of food system and community interests" (CR-FAIR and CRD RTE, 2008, pg. 6). If established and used to its full potential, this Council would be helpful in achieving local food system resiliency.

This document was developed with a specific piece of funding, and unfortunately does not have the funding to proceed with implementation (Weightman, 2014). The document has a number of positive actions; however, the document does not provide guidance for how the actions should come to fruition (Weightman, 2014). Additionally, as mentioned with previous documents, these actions focus solely on supporting the local production of the food system, and do not refer to larger scale infrastructure, regional trade, or general competitiveness.

3.2.6 Food Security Action Planning: A Collaborative Roadmap for Achieving Community Food Security in the Capital Regional District (2013)

This document was not prepared by the CRD or CR-FAIR, and as such will not be described in expansive detail. The Integral Strategy Action Group (2013) mapped the food system in Victoria, BC, with map divided into three components: community food network, impacts, and enabling capabilities (Integral Strategy Action Group, 2013). These components are further broken down into sub-sections each with a "key enabling outcome" (Integral Strategy Action Group, 2013). The sub-sections and actions described in the document include:

- Local food production (sixteen actions)
- Local food storage and processing (eight actions)
- Food distribution network (eight actions)
- Food recovery and waste management (ten actions)
- Food access and consumption (twelve actions)
- Food literacy and knowledge (eight actions)
- Coordination, collaboration, and partnerships (nine actions)
- Assets, resources and investments (seven actions)
- Innovation and effective practices (three actions) (Integral Strategy Action Group, 2013).

This document will be used to inform the RSS and the Food System Sustainability Sub-Strategy through making sure that all of the stakeholders identified in the process are included in the development process (Weightman, 2014).

3.3 Lower Tier Highlights

This research primarily focuses on recommendations for regional planning. However, in the course of exploring this jurisdiction it became clear that there were some interesting planning activities happening at the municipal level that could be used for inspiration for regional activities.

3.3.1 The District of North Saanich

The District of North Saanich (North Saanich) is located about 25 km north of Victoria, and is a rural community with just under 12,000 residents in a land area of 37.25 km^2 (Statistics Canada, 2013). North Saanich is outside the urban area of the CRD with the role of "support[ing] agricultural and rural land uses [within the region] and … retain[ing] the present rural, agricultural and marine character of the community" (Buchan et al., 2011, pg. 7). North Saanich had developed an Agricultural Plan, food charter, and sustainability plan which provided valuable guidance to the community; however, these documents acted as independent pieces with few linkages to create an integrated District approach. When the Director of Planning was asked to create a work plan to implement these strategies, he noticed this issue and approached council for permission to come up with a strategy that would integrate all of the documents together (Buchan, 2013). The Whole Community Agricultural Strategy (WCAS) was the result of this request and was developed with the goal of "ensur[ing] that all of the agricultural potential and potential synergies between [traditional and non-traditional] forms of agriculture are achieved for the best functioning local food system possible – one that is community-centred, relational, place based, seasonal, participatory and supportive of the local economy", as shown in Figure 5 (Buchan et al., 2011, pg. 8). In this, they describe a sustainable food system as "one in which food production, processing, distribution, consumption and the disposal of end products are integrated to enhance the environmental, economic, social and nutritional health of a particular community and place" (Buchan et al., 2011, pg. 7). WCAS "addresses the agricultural potential throughout North Saanich based on a comprehensive local food systems model" that divides actions into four categories: municipal priorities, community priorities, easily attainable actions, and a list of plants that could be used in edible landscaping (Buchan, et al., 2011, pg. 8). The top municipal priorities include:

1. "Ensur[ing that] municipal by-laws support agriculture.
2. Creat[ing] an agricultural webpage (on the municipal website).
3. Represent[ing] local and regional interests in food/agriculture.
4. Undertak[ing] an agricultural economic development plan.
5. Support[ing] independent local agricultural organizations." (Buchan et al., 2011).

Priorities 1, 2, and 4 have been completed, while priorities 3 and 5 are ongoing (Buchan, 2013). In addition to these priorities, WCAS aims to increase public support for agriculture, attract young farmers, and increase "the effectiveness of the food system" (Buchan et al., 2011, pg. 5). In total 89 municipal actions and 45 community actions have been developed to achieve these goals with over half of them "appl[ying] to more than one factor in the local food system" and emphasising the interconnectivity of agriculture (Buchan et al., 2011, pg. 5).

The key components that allowed the WCAS to be developed were having political, community and stakeholder support; keeping the public engaged; and including the public in the strategy's priority setting (Buchan, 2013). What makes this strategy different is that it looks beyond the traditional aspects of planning for agriculture, such as farmland preservation, and gives value to non-traditional aspects such as market gardens and rooftop farming, while not diminishing the importance of traditional agriculture. This strategy takes the approach that municipal agricultural support does not just have to be just for the large farmers or just for the smaller farmers, but that municipal strategies can support farming and agriculture at all scales and steps of the process.

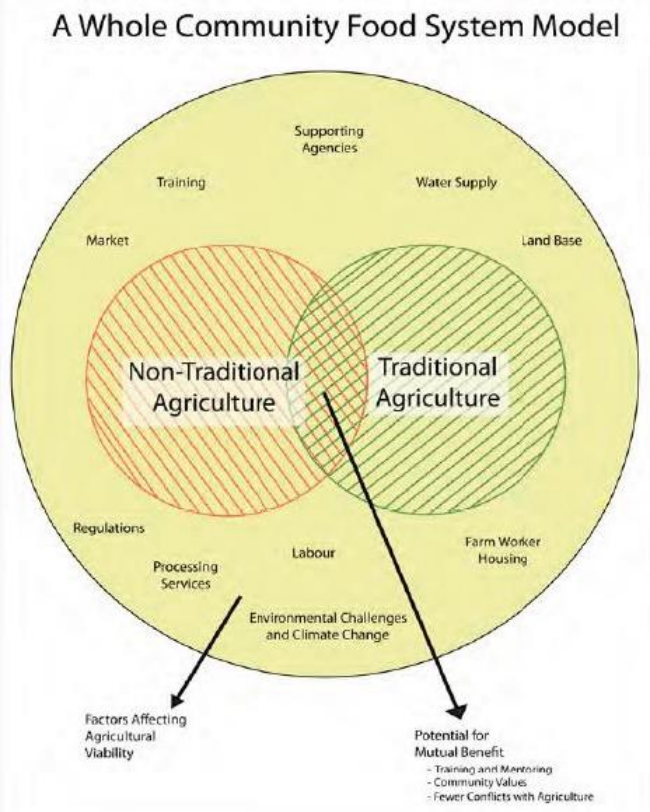

Figure 5: Visual representation of the WCAS (Buchan et al., 2011).

3.3.2 The District of Saanich

The District of Saanich is a mostly-urban municipality of 109,661 people (District of Saanich, 2012). This area has been the focus of growth and intensification leading to a "loss of significant gardening space on private land" (Provincial Health Services Authority, 2008). The municipality responded to this by "amend[ing] its zoning bylaw to allow community gardens as a permitted land use in all zones, except natural parks or environmental conservation areas" (Provincial Health Services Authority, 2008, pg. 8). Additionally, the municipality included density bonuses for developers who "create additional community gardens … on part of a site" (Provincial Health Services Authority, 2008, pg. 8). This bylaw supports food system resiliency by increasing access for individuals to grow their own produce. It also integrates food as part of the community and something that will have physical, emotional, and mental health benefits for all.

Another example from the District of Saanich is the procurement of public lands for the purpose of agriculture. This first occurred in 1984 when the District "leased 8.5 acres directly to a farm operation" for the cost of "setting up and administering the lease" until 2006 (CR-FAIR, 2013, pg. 16). The District has also purchased other lands including the Haliburton Community Farm and Panama Flats, which are both leased to community organizations (CR-FAIR, 2013). This land procurement creates a resilient food system base with stability for the farmers, and shows that the municipality is taking an active interest in supporting agriculture in the area and ensuring that farmland is available to those who want to produce on it.

Similar initiatives are being undertaken by the City of Victoria through municipally-owned/funded community orchards and kitchen gardens, and in the District of Central Saanich through the procurement of public farmland (CR-FAIR, 2013).

3.4 Practices and Processes

Through the examination of CRD and CR-FAIR documents, along with interviews with Jeff Weightman (CRD) and Derek Masselink (consultant for the CRD), the following practices and processes that occur within this jurisdiction related to food system resiliency are described.

3.4.1 Practices

As previously mentioned, a practice is defined as "the actual application or use of an idea, belief, or method, as opposed to theories relating to it" (Oxford University Press, 2014). Practices that are currently occurring in the CRD place a number of ideas and beliefs into use. The practices that support food system resiliency include:

- Mandating in 2003 that urban municipalities (Victoria, Saanich, Oak Bay, and Esquimalt) had to increase "their designated planned capacity for ground-oriented housing by 5%" more than they currently had in their Official Community Plan by 2011 (Capital Regional District, 2003) – By creating dense urban areas and encouraging development to occur densely, the development pressure on agricultural land is reduced.
- Requiring "a minimum of 90% of the region's cumulative new dwelling units to 2026 [to be] within the Regional Urban Containment and Servicing Area" (Capital Regional District, 2003) – This supports the CRD's "concentrated effort to largely shift to policies that encourage investment and development in designated urban centres", which in turn reduces the desire to develop on-farm properties outside of this urban area (Capital Regional District, 2003). However, in the State of the Region Report the CRD states that actions and inactions have occurred "which have diminished the rationale for establishing a containment boundary" and note that "in several instance the boundary has simply made servicing challenging; it has not prevented the continuation of sprawl development" (Capital Regional District, 2008). The report does not elaborate further and puts the continuation of this practice into question.

- Limiting urban sewer and water services and servicing capacity to discourage growth beyond the Regional Urban Containment and Servicing Area – This focuses on increasing intensification to reduce sprawl, therefore increasing the likelihood that rural areas will not be developed.
- Agreement to strengthen OCP policies "that ensure the long-term protection of Renewable Resource Lands" (Capital Regional District, 2003) – These areas contain farmland and the land within the Agricultural Land Reserve, therefore this practice also works to remove the pressure to develop farmland.
- Bulk water rates to farmers and rural municipalities – Water is provided at reduced rates to farmers and rural municipalities to encourage irrigation, which has the effect of increasing production, without drastically increasing production costs.
- Working towards improving soil quality – A household food scraps collection exists in the Region with the intention of creating compost for regional farms with the collections. This project is currently ongoing, but the results at this time are uncertain (Weightman, 2014).
- Potentially creating a land trust – This idea is being discussed; if implemented, an additional tax would be applied to households in the Region, with the revenue being used to purchase and hold farmland. This farmland would then be leased back at discounted rates to farmers who would not otherwise be able to afford the land (Weightman, 2014).

3.4.2 Processes

As mentioned before, a process is defined as "a series of actions or steps taken in order to achieve a particular end" (Oxford University Press, 2014). Processes that are undertaken, or are proposed to be undertaken, in the CRD that support increasing food system resiliency are:

- The agreement to undertake "a review of long term strategic resource needs in the Capital Region" with the Vancouver Island Health Authority and municipalities by 2008 (Capital Regional District, 2003) – This process seems to be currently ongoing, and appears to have resulted in food systems being considered as a topic in the RSS. In 2003, it was stated that this review would investigate "food paying specific attention to local food

production" and "long term demand, security of supply, potential impacts of factors such as long term climate change and fossil fuel depletion" (Capital Regional District, 2003). This integration of food into regional policy is unique in BC, with the CRD creating one of the few regional food systems strategies in the province (Weightman, 2014).

- Agreement to help establish a Regional Economic Development Strategy which includes "actions to support agriculture" (Capital Regional District, 2003) – if this occurs as described and includes agricultural economic development as part of the RSS and looks at ways of supporting food production and economic potential (including export and local markets), then the steps taken in this process will support increasing food system resiliency.
- Engaging the agricultural community in decision making through municipal Agricultural Advisory Committees – while this process does not currently take place at the regional level, it occurs within many of the municipalities and is a step in the approval process that supports food system resiliency. There is currently a discussion on whether a regional committee should be created (Weightman, 2014).
- Engage in Agricultural Education – a number of presentations and delegations are made regularly to municipal committees and other groups (Weightman, 2014).
- Participate in other levels of government – including offering input for Provincial agricultural policy and participating in local OCP processes (Weightman, 2014).

3.5 Food System – Economic Connection

The food system is less connected to the regional economy in the CRD than it is in Niagara Region, but still creates a valuable amount of economic activity. In 2006, the average farm generated receipts of $1,619.72/acre (compared with $2,899/acre in Niagara Region) (BC Ministry of Agriculture and Lands, 2008; Walton, 2010). Additionally, employment in the agri-food sector increased by 17% between 2001-2005, which made it the second fastest growing sector in the CRD during that time period (Community Social Planning Council, 2012). The CRD also contains the municipalities with first and second "the highest average annual farm

income of any municipality of Vancouver Island" –North Saanich and the Central Saanich, respectively– which speaks to the prominence of agriculture in the CRD's economy (Community Social Planning Council, 2012, pg. 13). Production that offers special marketing opportunities that could take advantage of the strong enthusiasm for local food includes "wineries, cideries, nuts, vegetables, fruits, specialized fruit trees, berries, poultry, and grain" (Community Social Planning Council, 2012). Additionally there are studies that "suggest that local demand for fresh vegetable product exceeds supply", representing the marketing opportunities in the area (Community Social Planning Council, 2012, pg. 15).

One important food-economic linkage in the Region is the hospitality sector. Victoria is known for its restaurant culture and claims to have the "second highest number of restaurants per capita" in North America (University of Victoria, 2014). This number of restaurants, in combination with a strong local food culture amongst residents and tourists alike, has contributed to the formation of the Island Chefs Collaborative. The Island Chefs Collaborative is "a like-minded community of chefs and food and beverage professionals with a common interest in regional food security, the preservation of farmland and the development of local food systems" (Island Chefs Collaborative, 2012). This organization hosts fundraising events that present a win-win situation for both restaurateurs and local agriculture. Additionally, the organization hosts a weekly farmers' market with chefs on-hand to give cooking advice and suggestions. This organization is one example of how the ties between the local economy and the food system can be used for mutual profit through encouraging agri-tourism and food culture.

4. Observations and Analysis

4.1 Practice discussion

Through the process of generating the list of practices for Niagara Region and the CRD it became apparent that there were a number of similarities and differences. Theses similarities and differences, along with a summary of the practices for each jurisdiction, are discussed in this section.

Niagara Region has an extensive diversity of current and proposed practices that support food system resiliency. Agriculture and food are seen as multi-dimensional and linked to a number of regional systems including education, tourism, industry, infrastructure, and natural heritage. If categorized, these practices could be broken down into education, research, advocacy, and barrier reduction. As with the CRD, there is a substantial section on concentrating urban development to reduce sprawl with the intention of preserving agricultural land. There are also a number of practices related to food production, process, and distribution, as well as creating the infrastructure to support this. Niagara Region also seems to include themselves as part of the food system, by practicing local procurement and evaluating their role and relationship with the current system.

Within the CRD the majority of the practices that can be found listed in public documents are related to increasing the concentration of urban development and thus reducing the pressure on rural areas to absorb sprawl. This is done with the intention of protecting farmland, which is a necessary part of having a resilient food system. However, the CRD is currently developing practices that will address the other components of the food system and its resiliency, mainly focusing on supporting agricultural production, such as their current practices of providing bulk water rates and improving soil quality with regional compost.

Some similarities that exist between the practices of these two regional governments include:

- Involvement in food system education – Both regions give presentations and delegations on planning and food systems, helping to increase knowledge of how the two interact.
- Considering agriculture in relation to urban development – Both regions advocate for or mandate compact urban development in order to reduce the development pressure on farmland.
- Taking regional leadership with their areas – Both areas are engaging with the food system in a way that is not common for regional governments in their area.

The major differences between the practices of these two regional governments are reflected in the summaries above. Niagara Region's practices involve many different components of the food system, including their own influence, while the CRD's current practices focus strongly on creating urban density in part to protect agricultural land. The difference in the number and type of practices between the regions may also be contributed to by the difference in leadership. In Niagara Region, all of the documents were commissioned by the Region, while in the CRD the majority of documents were completed outside of the regional government. This also contributes to the implementation results of the projects, with many of the CRD documents being currently unimplemented. The CRD is in the process of developing food system related policies, which may reduce the differences between these two areas.

The practices in Niagara Region and the CRD reflect the current stage of food system integration into the planning process for each jurisdiction. Niagara Region currently has a more diverse and in-depth set of common practices than the CRD; however, the CRD is releasing two new strategies this year which could drastically change the discussion.

4.2 Process discussion

While examining the processes that are taking place or are proposed to take place in Niagara Region and the CRD, it was observed that the processes in each location were fairly different. The similarities and differences of these processes are discussed in this section, along with a summary of each jurisdiction.

Niagara Region engages in a number of processes that consider agriculture and food as part of the wider system. The most prominent is the periodic review of the role that agriculture plays in the regional economy. This process has been conducted three times and falls within the practice of continual research and evaluation. Other processes that occur include: considering how agriculture will be affected with any new development, using various practices to repeatedly evaluate the role that Niagara Region plays in the food system, taking the approach that the food system is part of all systems, including tourism, highways development, urban containment, and marketing, and taking the goals of Niagara Region and breaking them down into specific components, objectives, and policies in order to ensure that they are achieved. It also appears the Agricultural Policy and Action Committee is consulted on a regular basis to ensure that the needs of the sector are considered.

As of this writing, the CRD is undertaking a large process to add a Food System Sustainability Sub-Strategy to their wider Regional Sustainability Strategy. This sub-strategy is said to include an economic development strategy and looks at many of the components needed for a resilient food system, including processing and distribution facilities. Once the RSS is completed the CRD will have a number of new processes to complement the current processes of engaging with other levels of government and presenting information to various audiences.

Similarities between these two regions include:

- A focus on economic development – Both regions are looking at economic development and how it relates to agriculture.
- Ongoing regional development – Both regions are interested in continuing to develop and integrate their approach to food systems.
- Using agriculture to define urban planning – Both regions use some sort of urban containment policy based on productive agricultural lands.
- Consulting Agricultural Advisory Bodies – While the CRD does not currently have such a body at the regional level, there are discussions about creating one and these groups are present at most local municipalities. Niagara Region has the Regional Agricultural Policy and Action Committee.

- Engaging with other levels of government – Both regions have some involvement with the agricultural plans of the provincial government, larger regional bodies (such as the Greater Golden Horseshoe in Niagara Region's case), and lower-tier municipalities.

Differences between the processes occurring in Niagara Region and the CRD mainly stem from the point of progress that each region is at. Niagara has established their processes, where the CRD is in the process of creating them. The CRD also does not, at this point, consider themself to be part of the food system. While they are in the process of developing practices and processes which allow them to play a role, at this time they do not have a local procurement policy and have not fully embraced this role.

The processes present in Niagara Region and the CRD vary and provide a snapshot of the stage of development and integration that each region is currently at. Both regions are currently developing new processes that will build upon the foundation discussed here.

4.3 Gap and Barrier Analysis

Within the planning profession there are always challenges and areas that could use more focus. This section reviews each case, identifies areas that could use more focus, and discusses some of the challenges planners at those regions may be encountering.

Niagara Region appears to be at the edge of planning for food system resiliency and has taken the approach of planning for more than just farmland preservation, but also local food, economic development, food processing, food distribution, infrastructure needs, and Regional involvement.

The CRD presents an interesting case as, from an outside perspective, it appears that there are a lot of food systems planning projects occurring. However, on closely examining the public documents, there is very little that has been published by the CRD at the regional level. It appears that the majority of initiatives are occurring in municipalities or through NGOs and partnerships. In this case, the regional government is in the process of developing regional food system documents, which are based on the many non-CRD programs, documents, and policies that currently exist in the Region.

4.3.1 Gap Analysis

Niagara Region has very few obvious gaps within their policies and plans. The one area that could be considered a gap, and that is hotly debated, is the role of the aggregate industry in prime agricultural lands. While policy states that "notwithstanding any provisions in the Section 7.D to the contrary: (a) No new mineral aggregate operations, wayside pits and quarries or any ancillary or accessory use thereto will be permitted between Lake Ontario and the Niagara Escarpment Plan Area"; the policy also states that in certain cases new or expanding aggregate operations may be allowed in unique agricultural areas if certain criteria are met (Niagara Region, 2014, pg. 102). Other areas that could always be improved include working to better understand the needs of the community, keeping up with the changing agricultural and community environment, and developing new partnerships to take advantage of new opportunities (Donia, 2014).

The CRD has a number of opportunities to implement new practices and to support food system resiliency. These opportunities to fill gaps could include:

- supporting economic opportunities to enter local and export markets, through supporting the necessary infrastructure, on-farm diversification, value-added opportunities;
- participating in regional local food procurement;
- linking food and health;
- taking steps to increase food awareness amongst its citizens;
- including food as part of the disaster management planning;
- creating a regional advisory body that considers and validates food and agriculture in regional decisions; and
- becoming a formal member of CR-FAIR, which may strengthen the Region's commitment to food and build public credibility.

While these opportunities reflect current gaps in the CRD's approach to food systems, many of these gaps have the potential to be filled with the release of the RSS and its Food Sustainability Sub-Strategy.

4.3.2 Barrier Analysis

Barriers that appear to be faced in Niagara Region include competing interests and a small resource area. Many of the resources that are competing are non-renewable and conflicting uses, which require careful navigation to ensure that all of the areas needs are taken care of and prioritized. Other barriers in Niagara Region include the vastness and variety of agriculture in the area, getting everyone to understand that they are part of the same system, and the challenge of encouraging partnerships with parties that may have different perspectives but that could capitalize on their common interests (Donia, 2014).

The main barrier in the CRD is attaining continued political support. The barrier of continued political support manifests itself in fewer resources, leading to a slow evolution and subsequent delay of documents that are being prepared. Another barrier that the CRD is facing is working within a fragmented agricultural community (Masselink, 2014). There are a number of agricultural and food groups represented in the area with different interests, and the scarcity of resources in the region affects the way that they work together. Furthermore, participant burn-out, from would-be participants who are frustrated by a lack of results, increases the difficulty in bringing these divided groups together.

4.4 The Role of Planners

It was agreed upon by all interviewees that the role of planners, as it relates to food and agriculture, is one that is changing. The role of planners in food systems is an evolving and increasing one. Beyond the changing role of planners, the agricultural sector is also changing and is becoming recognized as the business that it is. In both of the case study regions, food and agriculture play key roles in the foundation of the community and its cultural identity, including tourism. These planners are currently working to connect the dots between the different areas of planning and the different areas of the food system.

While planners are currently working in this way, it was noted in one of the interviews, that the interviewee was unsure if planning was the best place to address issues of farm viability, such as drainage and wildlife issues (Weightman, 2014). Another planner also agreed that planning may not be the best way to attempt to solve wicked problems, such as food system resiliency, and suggested that planners could step away from the traditional planning approaches, towards something new (Masselink, 2014). However, both individuals thought it was important to consider food and food systems in planning decisions.

Planners have to work within and between a number of contexts, including the legal context, the public context, and the organizational context. One of the barriers for planners are the challenges that come with working in a local government context. Creating and nourishing public participation is resource intensive, and is difficult to sustain within a local government context due to the nature of municipal processes. Many projects are developed with specifically allocated funding, resulting in a "one-off" series of projects that lack connectivity. Additionally, when local government slows down over the summer, or goes on hiatus during an election season, planners face the difficulty of maintaining momentum for these projects. This is one challenge that planners in every domain are dealing with and is not specific to food and agriculture.

5. Recommendations

While the intention of this research was to compare and contrast two innovative regions, during the investigation process it became apparent that Niagara Region had published more food and agriculture related policies, while the CRD was in the development stage of these policies. However, rather than comparing Niagara Region with another region, the CRD was included because of the amount of food system work happening in the jurisdiction outside of regional government and the potential that exists in the forthcoming strategies. The CRD represents the situation and status of many Canadian regional governments and offers an opportunity to examine how these regions can move forward. Food systems initiatives often start outside of government or within lower-tier governments due to lack of funding or concerns about political risk; this section offers recommendations for how to take this local momentum and turn it into regional leadership.

5.1 Regional Recommendations

Regional governments have great potential to be connectors between various levels of government, organizations, and citizens. Examining the documents, policies, practices, and processes of Niagara Region and the CRD has provided valuable insight into the planning components that can contribute to a resilient food system. In combination with suggestions and examples taken from relevant literature, the following recommendations are made for planning at the regional level:

- Educate the decision-makers, councillors and planners on the components and importance of a resilient food system.
- Conduct an inventory of agricultural land, producers, processors, distributors, retailers, and organizations involved in the food system in order to have a full vision of the regional food system network.

- Investigate the linkages between the food system and other systems including the local economy. Find ways to connect, and strengthen these connections, between various systems. For example, solid and liquid waste could be connected to food through composting facilities.
- Ensure that food and agriculture are the partial focus of at least one employee's work.
- Create a regional food strategy that guides how the region approaches their food system. This strategy could include a food systems checklist that is reviewed along with any application, such as is done in the City of Vancouver (Deloitte, 2013).
- Provide regional direction to enable the creation of by-laws that support:
    - local processing and distribution facilities,
    - community gardens,
    - local food culture,
    - dense urban development,
    - the placement of transportation infrastructure accessible to agricultural areas yet not in them,
    - retailers and restaurants to sell local food,
    - the creation of agri-tourism destinations,
    - farm worker housing,
    - on-farm value-added facilities,
    - on-farm diversification facilities, and
    - on-farm product sales,
- Demonstrate regional commitment to food, such as through a local food procurement policy.
- Act as a convener of the conversation – bring people together to have conversations.
- Look for collaboration with non-traditional partners, such as the financial sector.
- Believe that food is important.

5.1.1 Creating and Supporting Economic Linkages

Economic diversification is a motivating factor for many regional and local governments and organizations. As stated in numerous examples throughout this paper, investing in the food system is one way to contribute to creating a strong and diversified economy. Focus areas that could support these economic linkages include:

- Increasing market access for local products through farmers' markets, distribution centres, and food boxes.
- Increase import substitution and local procurement by encouraging production for local markets and the creation of local procurement policies.
- Create policy that allows direct farm marketing through on-farm sales, value added and farm market opportunities.
- Encourage and support agri-tourism through marketing strategies and the development of policies that allow for on-farm sales and value added production.
- Provide the support to allow farm businesses to reach critical mass through farm diversification and local infrastructure for storage and distribution.
- Look beyond the typical groups in sourcing investment; the food system connects to every sector in some way.
- Support sector and community leadership by providing the policies, funding, and facilitation needed where possible.
- Take a regional approach to a food system based economy, as many economic ties cross municipal boundaries.
- Create the regulatory environment that enables and supports strengthening the food system. Agriculture is a business and should be treated as such.
- Support the agricultural-business community through extension and business services, when possible.
- Create the zoning and incentives for agriculture related infrastructure such as "cold storage, distribution, processing, and packaging infrastructure". (Community Social Planning Council, 2012).

Another way of linking local economies and the food system is through the creation of a food cluster. Food clusters are "place-based creative economies" that turn "comparative advantages … into competitive advantages" (Lee & Wall, 2012, pg. 3). According to Lee and Wall (2012), rural areas and small towns are the ideal places to develop a food cluster. They describe a food cluster as "making a positive contribution to place-based creative economic development in rural area[s] and small town[s] … by supporting creative jobs (e.g. entrepreneurship) and incomes … and increasing place identity and pride in place" (Lee & Wall, 2012, pg. 4). These clusters incorporate the primary agricultural industry; the secondary agricultural industry such as processors, storage providers, and distributors; the service industry through restaurants, food retailers, and tourism; and the cultural industry through local events and the development of place. Because of the way that these clusters touch a number of different sectors, they are able to play a positive role in addressing rural decline, developing a sense of place, revitalizing the local economy, and increasing job retention, leading to local stability and growth.

5.2 Overcoming Barriers

Many governments are finding that forming collaborative partnerships is an effective way of overcoming barriers. One of the most natural partnerships for planners is with the public health unit. These units often have goals relating to increasing the amount of fresh produce eaten and increasing food literacy, which are also goals in increasing food system resiliency. Another avenue that could provide fruitful collaborations is through focusing on climate change and sustainability. Often local food production, processing and distribution have lower GHG emissions which could work towards achieving climate targets (Xuereb, 2005). Additionally, forward-thinking regions are also considering how they might adapt various climate change scenarios and disaster management. The food system becomes exponentially more important in various disaster scenarios, some of which may result from climate change.

Education is an asset to any barrier reduction strategy. Helping everyone involved (including Councillors, business owners, the public, and producers) to realise that they are all part of the same system, and describing some of these system connections can be a powerful way of

overcoming resistance. Conducting research to place an economic value on the local food system, or the amount that could be generated through the creation of a local food system, can also contribute to convincing skeptics. The formation of an agricultural or food policy committee is another useful way to emphasize connections between groups and to transcend policy silos. A committee also provides the opportunity for meaningful conversation and building agreement based upon common interests. This agreement can also be done through approaching projects that have tangible changes associated with them. Through the process of completing these projects a set of values, cultures and overall vision are established. Working together on projects and seeing the results implemented builds confidence in the system, while allowing people to participate in a democratic way.

5.3 Planning Profession

The role of planning in food system resiliency is one of enabling and supporting. Planners themselves may not be the professionals who will actually implement components of food system resiliency, but they can ensure that there are few barriers for those who come forward with projects. They can also ensure that local by-laws, policies, and programs are supportive and encouraging of these initiatives. Examples include policies that allow for on-farm diversification, on-farm value added, distribution and processing hubs, community gardens in exchange for density bonuses, urban chickens, enabling farmers markets, and pre-zoning areas to encourage high density development and/or food clusters. However, the first step in this is to ensure that there is a wide-spread understanding and consciousness of how the food system works. When the majority of planners understand the challenges and opportunities in the food system, then the integration of the food system into planning will become a natural process.

Recommendations from planners working in food to the planning profession include:

- Write flexible policies on food that can be adapted, adopted, and strengthened over time (Weightman, 2014).
- Act as an enabling facilitator. Rather than just discussing the subject, begin to take action and learn through doing (Masselink, 2014).

- Learn to provide opportunities for potential (such as farmers' markets) and look beyond traditional land use planning (Donia, 2014)
- View food and agriculture as a piece of the whole system and see how it fits into other systems to blend sectors and work together (Donia, 2014).
- Understand needs of the community, what the community has, and where the gaps are. This is a continual process to be able to speak to future directions and what the needs will be (Donia, 2014).

6. Conclusion

Regional governments in Canada are facing a number of complex decisions that will shape the future of their communities. How a regional government approaches their food system is one of these complex decisions. The food system affects public health, environmental sustainability, natural heritage, conservation, economic development, immigrant groups, First Nations, tourism, social networks, manufacturing, distribution, infrastructure, and education, and is linked to all other systems, including the regional economy. This research gathered information to provide regional governments and planners with ideas for strengthening and incorporating their food system into their planning processes. The key recommendations for incorporating food systems into regional planning include: discovering the importance of food to regional systems, ensuring that current policy does not inadvertently harm the food system, determining what is needed in the region to support the system, taking on projects that will result in implementation, and steadily re-evaluating the role of the region and the local system components.

The role of planners and the planning profession in the food system is evolving and moving beyond traditional planning processes. The planning profession is re-familiarizing itself and learning its way in the food system, along with the rest of our culture. Planners can embrace this role by connecting sectors and systems, writing flexible policy that can adapt to future circumstances, advocating for the importance of food, and pushing for implementation and tangible goals.

Niagara Region and the Capital Regional District provide unique and informative cases that represent two different stages of food system integration. Niagara Region has a fairly well integrated food system with respect to its planning process, while the CRD is in the process of developing the linkages to their planning process. Both of these regions have the strong potential to attain food system resiliency in the future.

The results of this research provide tangible examples for regional governments to engage with their food systems. By strengthening the many components of the food system with the help of planners and through the planning process, regions can strengthen and diversify their local economies, while coming closer to achieving food system resiliency.

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