RE-LOCALIZING HORTICULTURAL SUPPLY CHAINS IN LOWER MAINLAND, BRITISH COLUMBIA, CANADA: AN EXPLORATORY STUDY OF MARKET BARRIERS AND OPPORTUNITIES

by

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ABSTRACT

Most horticultural crop producers in the Metro Vancouver region and Fraser Valley Regional District (FVRD) of the Lower Mainland of British Columbia, find themselves unavoidably competing within globalized agriculture and food supply chain systems controlled by relatively few powerful corporate entities. This global competitive environment has meant that horticultural producers, especially relatively small-scale producers, experience difficulty maintaining economic viability. In addition to globalization, food-system vulnerabilities manifested by such issues as global climate change, land-use conflict in the Agricultural Land Reserve (ALR), biosecurity concerns, and increasing energy costs are becoming ever more salient issues for local horticultural producers and buyers.

In light of globalization and emerging system vulnerabilities, this thesis explored the possibility of re-localizing the Lower Mainland horticulture supply chain by asking two questions: First, how do B.C. Lower Mainland producers of fresh fruits and vegetables, and buyers in the City of Vancouver, perceive their current and potential capacity for local food sourcing and marketing relationships? Second, given that there are discernible benefits to re-localization of the horticultural supply chain, what recommendations can be made to inform public policy development that facilitates re-localization? Using a case-study approach, structured interviews were conducted with food-service providers, retailers and wholesalers within the City of Vancouver, as well as with fruit and vegetable producers in the FVRD and Metro Vancouver region. Each market participant’s sourcing and marketing relationships were explored to uncover barriers and opportunities for developing or enhancing their respective market channels and relationships.

Lower Mainland, City of Vancouver and provincial policy considerations are suggested for overcoming experienced local market barriers. These considerations focus on the following: 1) establishing a sophisticated go-to-market approach; 2) establishing the infrastructure for a local/regional horticulture supply chain system that embeds the food economy ubiquitously in local market channels; 3) rebuilding and enhancing re-localized/regionalized horticultural value chains; 4) initiating responsive community and cooperative economic development around food production; 5) comprehensively planning regional/community food system integration. Organized around these considerations, re-localization policy development would embrace regional and local identity and food system integrity, effectively branding local/regional horticultural products and agriculture that beget market loyalty and preference.
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GLOSSARY

Agricultural Land Reserve (ALR): The Agriculture Land Reserve is a provincial zone in which agriculture is recognized as its priority use. Farming is encouraged, and non-agricultural uses are controlled. The ALR covers approximately 4.7 million hectares, and it includes private and public lands that may be farmed or forested, as well as vacant land. It comprises those lands within British Columbia that have the potential for agricultural production (B.C. Agricultural Land Commission 2004a).

Analysis of themes: Following description, the researcher analyzes the data for specific themes, aggregating information into large clusters of ideas and providing details that support the themes (Creswell 1998).

Bounded system: The “case” selected for the study has boundaries, often bounded by time and place. It also has interrelated parts that form a whole (Stake 1995).

Buyers: For the purposes of this study, a buyer is a retail business, or private/public institution that sells raw, fresh or prepared food to the public for its consumption (e.g. green grocers, supermarkets, restaurants, schools and hospitals). These buyers or intermediaries, who purchase at the wholesale level, are the main focus of the study in question.

Case study: In qualitative research, this is the study of a “bounded system”, with the focus being either the case or an issue(s) that is illustrated by the case (or cases) (Stake 1995). A qualitative case study provides an in-depth study of this “system,” based on a diverse array of data-collection materials, and the researcher situates this system or case with the larger context.

City of Vancouver: Vancouver is the largest city in the province of British Columbia and the third largest in Canada. It covers an area of 113 square kilometres in the southwest corner of the province and is composed of 23 communities or neighbourhoods. It has a population of approximately 560,000 people.

Consumer: Consumers are “end users” of whole, prepared or otherwise manufactured food. Consumers are people who purchase food from intermediaries (see Buyers) to eat or prepare and serve to others in a non-retail business setting.

Context of the case: In analyzing and describing a case, the researcher sets the case within its setting. This setting may be broadly conceptualized or narrowly conceptualized (Stake 1995).

Description: This simply means stating the “facts” about the case as recorded by the investigator. This is the first step in an analysis of data in a qualitative case study (Stake 1995).

Foodshed: A foodshed can be considered a conceptual analogue to a watershed. The term was coined by William Hedden (1929) in his book, How Great Cities are Fed, and revived by Arthur Getz (1991) in his article, Urban Foodsheds. This concept offers a framework to grasp the shape and unity of the complexities of food systems by imagining the “flow” of food into a particular place. Foodshed becomes a unifying and organizing metaphor for the unity of place and people, and of nature and society. (Kloppenburg, et al. 1996: 3).
Kloppenburg, et al. (1996), in their paper, “Coming into the Foodshed”, establish a normative distinction between the global-food system that exists now and the multiplicity of local foodsheds that they hope will characterize the future.

**Food security**: The generally accepted definition of food security is a condition in which all people at all times can acquire safe, nutritionally adequate and personally acceptable foods that are accessible in a manner that maintains human integrity (Center for Food Studies 2001).

**Food system**: A food system is the deliberate organization of the production, processing, distribution, selection, consumption and disposal of food. An additional component to the food system is the supporting infrastructure that supplies the necessary inputs into the system such as feed grains, petroleum agricultural chemicals, machinery and technical expertise (B.C. Food System Network 2008). For the purposes of this study, the local food system is composed of a similar microcosm of interconnected subsystems that include producers, consumers and the multitude of market avenues, sales and distribution points that act as intermediaries.

**Fraser Valley Regional District (FVRD)**: The FVRD stretches from Abbotsford and Mission through the Fraser Canyon, and straddles both sides of the Fraser River. It includes the municipalities of Abbotsford, Mission, Chilliwack and Harrison Hot Springs, Hope and Kent, as well as eight electoral areas, which include the hamlets of Lindell Beach, Hemlock Valley, Popkum, Yale, Spuzzum, Boston Bar, North Bend, Sumas Mountain, Hatzic Prairie, Deroche, and Lake Errock. As a partnership of six municipalities and eight electoral areas, the FVRD provides many types of services to more than 220,000 residents (FVRD 2008).

**Globalization**: The concept of globalization refers to rapid change in the technical, social, political and territorial organization of investment, production, trade and aid. Among the shifts most commonly identified are the transnationalization of communication, commerce, production, ownership, consumption, sociocultural reproduction and politics; the increased segmentation and volatility of market demand; the organizational decentralization of firms and the enhanced flexibility of production; the strategic ascendence of finance capital and specialized services relative to manufacturing; the transfer of public resources to private hands; the proportional relocation of manufacturing activity from the United States and Western Europe to East Asia as well as poor geographic areas; and, deterioration in average pay, stability and other conditions of employment (Tardanico 1998).

**Metropolitan Vancouver (Metro Vancouver)**: The Metro Vancouver region is a working partnership of the 21 municipalities and one electoral area that make up the metropolitan area of Greater Vancouver. The Provincial Government established the regional distinction concept in 1965. There are now 29 regional districts in British Columbia.

**Holistic [analysis]**: The researcher examines the entire case (Yin 1994) and presents a description, themes and interpretations or assertions related to the whole case (Creswell 1998).

**Local**: For the purposes of this study, local can be defined as the geographical area—a physically defined place—composed of the Metro Vancouver region and Fraser Valley Regional District in southwest British Columbia. Although this definition may be suitable for producers/farmers, buyers, on the other hand, for reasons of simplicity and convenience, will necessarily be those confined within the City of Vancouver and their interactions with the
Lower Mainland. Because local and global systems do not operate as separate, entirely independent units, the meaning of “local” can also be interpreted in this study to be “more-local” as well as “to localize”, or, “as close as possible” or “in close proximity to”; a process of concentrating a food system locally that can be applied in diverse situations according to negotiations between importers and exporters (Bellows and Hamm 2001). In other words, local means the locally negotiated geo-eco-socio-political boundary(ies) for a self-reliant food supply by all relevant stakeholders.

**Lower Mainland:** For the purposes of this study, the Lower Mainland consists and is inclusive of the combined geographical area represented as the Greater Vancouver Regional District and the Fraser Valley Regional District.

**Permaculture (Pc):** Permaculture comes from the synthesis of two words: permanent culture or permanent agriculture. Permaculture is the conscious design and maintenance of agriculturally productive ecosystems that have the diversity, stability and resilience of natural ecosystems. It is the harmonious integration of landscape and people providing them with food, energy, shelter and other material and non-material needs in a sustainable way (Mollison 1988).

**Producers:** Producers are defined as those people or businesses that cultivate and harvest fruit, vegetable and animal products, byproducts, produce, and value-added products, such as food, fibre, ornamentals and medicinals.

**Purposeful sampling:** The sampling strategy in selecting the case and a rationale for this approach. It applies to both the selection of the case to study, as well as the sampling of information used within the case (Creswell 1998).

**Sampling unit:** For the purposes of this study, a sampling unit consists of conventional or alternative categories with subcategories within each category that define a set of market stakeholders. These stakeholders can be interviewed and subsequently analytically treated—initially—as individual cases (Sandelowski 1996). This approach assisted with in the analytical process of the data for this study from a large number of stakeholders, by maintaining a primary focus on the case-orientation approach, while ultimately leading to a variable-analysis of the whole study.

**Triangulation:** The convergence of sources of information, views of investigators, different theories and different methodologies represents the triangulation of ideas (Denzin 1970) to help support the development of themes.
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CHAPTER 1: INTRODUCTION

During the 20th century, food-consumption patterns shifted away from a traditional diet, based on food harvested mainly from the local environment, toward a diet governed by more affluent, industrialized and globalized cultural influences (Gerbens-Leenes and Nonhebel 2002: 187). As a consequence, diets associated with affluent lifestyles have created food-consumption patterns with a proportionately greater impact on land requirements, and the ability to assert a powerful transnational economic influence over a disproportionate measure of the world’s agricultural area (Penning de Vries, et al. 1995; Bouma, et al. 1998). The very nature of globalized trade in agriculture-and-food-supply chain systems increases the distance required to transport agriculture-and-food products. The rise in global trade of agriculture and food products also reflects the significant transnational corporate involvement and concentration currently existing in the food production, processing, distribution and retail sectors in North America and Western Europe (NFU 2000). The values and goals of a transnational, neo-liberal economy emphasize producing food cheaply by externalizing environmental and social costs, and standardizing products for their predictable outcomes. At the same time, market power is concentrated and capital resources are manipulated in an effort to control the means of production and consumption in the global food and agriculture system. This may be exactly what neo-liberal economists and some consumers think should happen in British Columbia’s Lower Mainland, however this economic ideology informs operational premises and infrastructures that are inherently unsustainable and contrary to the goals of local food security.

Globalization as an economic panacea for providing food security is, from among a broad range of other proclaimed benefits, inherently unreliable and unsustainable because it attempts to operate outside the ecological constraints within which it is embedded. These market forces assume immunity to the empirically constituted fact that Earth’s biophysical

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1 In the meantime, human-energy requirements have retained the same order of magnitude as they did in the Stone Age. Once an individual’s physiological energy and nutrient requirements are fulfilled, the social and cultural aspects of food determine food consumption patterns, with a strong correlation between diet and income (Von Braun 1988; Vringer and Blok 1995). Rising incomes favour more expensive foods—as opposed to greater quantities of food—so that dietary shifts alter claims on the available natural resources. The results of a study on land requirements for food (Gerbens-Leenes and Nonhebel 2002) indicate that the difference in land requirement between an affluent diet and a vegetarian diet could be more than three-fold. Penning de Vries, et al. (1995) determined that agricultural production is capable of satisfying physiological requirements; however an affluent diet featuring meat (especially beef) would be highly difficult to sustain for an increasing proportion of the world’s population. Peters, et al. (2007) found a nearly fivefold difference (0.18–0.86 ha) in per capita land requirements was observed across several diet variations and their results supported the assertion that diet should be considered in its entirety when assessing environmental impact.
resources and ecological services are finite in supply and function, and incompatible for quality, long-term human presence. Also, the current food-supply system engenders physical and psychological separation between producers and consumers, disassociating and undermining the value of social, economic and ecological interdependencies. As such, in recent years, and more so in recent months, food security has become an increasingly important worldwide and local consideration as significant impediments related to globalization play out (e.g., corporate concentration, supply chain dynamics, global economic pressures, and questionable land for fuel biomass production schemes). In addition, in the local/regional context, loss of productive agricultural lands within and outside British Columbia's Agricultural Land Reserve (ALR) within the Lower Mainland to development pressures, precarious farm finances, consequences of peak oil and lack of suitable energy substitutes, biosecurity measures, and climate change impacts provide substance and rationale for re-localization of agricultural and food system capacity and infrastructure.

The ability to re-localize food-and-agriculture systems to compensate for an unsustainable and unreliable global supermarket may be hindered by a loss in production capacity and infrastructure occurring locally. Local production capacity in the Lower Mainland for local consumption is being compromised under globalization; production capacity elsewhere in the world has been expropriated, while resources necessary for food production closer to home are subject to loss against other competitive uses (e.g., exclusionary urban and industrial development). Within an agroecological-systems framework, these culturally induced and manufactured forces pose a market challenge to local food producers and buyers who want to participate in a more regionalized supply chain, as well as they promote food-system vulnerabilities and stresses mentioned above. These concurrent forces, challenges and vulnerabilities complicate local efforts to achieve food-security goals and attain a greater degree of food self-reliance. Food-system vulnerabilities have had different degrees of impact regionally across the globe, as nations and communities adjusted to the consequences of dependency on a predominately distant and protracted horticultural supply chain system.

Therefore, this thesis explored the potential of re-localizing the horticultural (i.e. fruits and vegetables) supply chain of the City of Vancouver food system within the Lower Mainland of British Columbia, Canada. It explores the production, distribution, and recycling of
horticultural products in order to identify the circumstances under which market relationships with other stakeholders in the food and agriculture system can be strengthened or expanded. In this thesis, “re-localization” means establishing substantial/reliable market linkages and partnerships between local producers and local buyers. An agroecological / agroecosystems framework was adopted in order to link a systems perspective with the relevant food system challenges, relative to the development of greater local food security. From a systems perspective, it also takes into consideration what are thought to be several major food-system vulnerabilities and their implications for local food security. As such, and within the local/regional context, it asks how B.C. Lower Mainland producers of fresh fruits and vegetables, and buyers in the City of Vancouver, perceive their current and potential capacity for local food sourcing and marketing relationships? Second, given that there are discernible benefits to re-localization of the horticultural supply chain, what recommendations can be made to inform public policy development that facilitates re-localization? It is hoped that this thesis becomes a resource for local food-system information, and it offers guidance for local food-system decision-making and public education, as it aims to strengthen food policy-making efforts by the Vancouver Food Policy Council (VCFP). However, to be clear at the start, it does not examine issues related to consumer demand or consumer buying behaviour, but is limited to the horticultural supply chain (i.e., it excludes from consideration British Columbia livestock, grain, legumes, aquaculture, hay, ginseng, etc.) simply for matters of data manageability and focus. Likewise, the results of this study do not imply that direct correlations should be drawn between horticultural production capacity and other agricultural sectors; there may be similarities but not enough to draw similar conclusions.

Characterization of Lower Mainland Agriculture

Within B.C. the Lower Mainland region represents the major agricultural area for farming income and jobs. Proportionally, the Fraser Valley Regional District (FVRD) and Metro Vancouver regions combined have the smallest total area under cultivation in B.C. in 2001

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2 The City of Vancouver created the Vancouver Food Policy Council, whose aim it is to help develop policy that links the social, environmental and economic aspects of food production and consumption. In addition to creating public awareness, this group advises City Council regarding food-related health, nutrition, education, land use, poverty, culture and market-related issues.

3 The Greater Vancouver Regional District was renamed Metropolitan (or Metro) Vancouver in 2007. As the third largest metropolitan area in Canada, the name Metro Vancouver is meant to increase the profile of the greater Vancouver region nationally and internationally and perhaps have more influence while seeking funds or instituting policy changes (CBC 2007). I will use the terms Metro Vancouver exclusively so as not to introduce confusion with past and current regional district documents and references.
and 2006, but it earned the largest proportion of farm-cash receipts and agricultural workers. British Columbia has less than 0.1 percent of Canada’s Class 1 land and 1.4 percent of Canada’s dependable agricultural land. Agricultural productivity occurs on less than five percent of the provincial land base. Despite a prolonged history of losing agriculturally productive land, the agricultural sector has continued to play a key role in the British Columbia economy. In the 2006 Census of Agriculture (Statistics Canada 2007a) – the latest data available – British Columbia reported 19,844 working farms, and 29,870 farm operators, a 2.2 percent and 1.7 percent decrease from 2001 levels, respectively. Farm holdings cover 2.8 million ha. Of the 19,844 farms, 3,232 (16.3 percent) had certified organic production, more than double the national figure. B.C.’s agriculture sector supported about 35,000 primary agriculture jobs and generated nearly $2.7 billion in farm-gate receipts in 2005, and $2.4 billion in operating expenses. BC farm operators spent an average of $0.90 in expenses for every dollar of receipts in 2005. The stability of the expenses to receipts ratio over the 2001-2006 Census period is good news in light of the fact that inflation over this period saw the prices of inputs increase 9.6 percent compared to 4.2 percent for products sold – a sharp contrast to the 5:1 ratio seen nationally over the same period. The total area of land on farms in British Columbia rose 9.6 percent between 2001 and 2006 to 1.7 million ha (about 4.2 percent of the total farm area in Canada) with average farm size increasing more than 10 percent from 75.3 ha to 84.3 ha. The increase in farm size accompanied a 4.5 percent increase in the number of farms with gross farm receipts over $250,000. These 2,019 farms represent only 10.2 percent of all farms in B.C., they accounted for 80.8 percent of total provincial gross farm receipts in 2005. However, of the 1.7 million ha of farm land area, 0.3 million ha are cropland; the total are in field crops, fruits, vegetables, sod and nursery. In 2006, British Columbia reported 4,107 ha of vegetables and remains third in terms of total hectares of vegetables, behind Ontario and Quebec (Statistics Canada 2006a; Statistics Canada 2007b; B.C. ACF 2008; B.C. MAL 2005; B.C. MAFF 2003a,b).

The B.C. greenhouse industry is well ensconced in the Lower Mainland in terms of capital investment, its productive capacity, and its role in the national, provincial and regional agricultural economies. In the Lower Mainland the greenhouse vegetable industry in consisted of about 80 greenhouse vegetable operations, or 95 percent of the total in B.C. In 2004, the estimated value of the greenhouse vegetable sector to the B.C. economy in 2004 was $750 million, with the total farm-gate value of its products between $220 million (B.C.
GHGA 2005) and $250 million (Mitham 2004). The United States is the major export market, accounting for approximately 75 percent of all Canadian greenhouse vegetable sales. The expansion of the greenhouse industry recently stabilized in the U.S. and Canada, but its growth is still taking place in Mexico (Gyarnati 2005). The B.C. greenhouse vegetable industry employs an estimated 2,600 people: 2,000 at the farm level and 600 in packing, distribution and marketing operations. The workforce consists mainly of year-round, full-time employees, owing to the extended crop seasons. However, the greenhouse industry competes for labourers in the trade, transportation and construction industries where pay scales and earnings can be much higher. In addition, the aging population has resulted in a shortage of greenhouse workers (Work Futures BC 2001). Although B.C. greenhouse growers have increased their production of greenhouse vegetables, the demand or price for these items has either grown slightly, or declined in recent years.

Fraser Valley Regional District

The Fraser Valley is predominantly rural and agricultural, but increasingly suburban as it abuts Metro Vancouver’s political and economic jurisdictions (see Appendix A). It contains some of Canada’s richest, most fertile agricultural land. With 2,567 farms and 3,920 farm operators occupying 56,603 ha, the FVRD earned more than $921 million in 2005 farm-cash receipts, which is more than 55 percent of Lower Mainland’s, and about 35 percent of province’s, gross farm receipts. This represents a 72 percent increase in gross farm receipts since 1996. Since 1996, the number of farm operators declined 15 percent in the FVRD. The farm population is aging and fewer young farmers are entering the industry; the average age of the farmer is 54.2 years, 2.8 years higher than in 2001. In the FVRD 33 percent of farmers were over 55 years, a 5 percent increase over 1996. Approximately half of all farm operators are fully employed in farm work. The FVRD has 59 percent of its farmland, about 33,394 ha, in horticultural crops. Between 2001 and 2006, the FVRD saw a 3.5 percent loss

4 The principal vegetable crops include tomatoes (beefsteak, Campari and cluster), sweet bell peppers (red, yellow and orange), long English cucumbers and butter lettuce. B.C. growers have achieved globally competitive yields: tomatoes, 73 kg/m², cucumbers, 160 cucumbers/m², peppers, 27 kg/m² and lettuce, 200 heads/m². B.C. growers also supply a variety of other specialty greenhouse crops, including culinary herbs, grape and cherry tomatoes, mini-peppers and mini-cucumbers (B.C. MAFF 2003c).

5 In 2003, for instance, a lower price for greenhouse tomatoes of $1.89/kg resulted in their revenues falling from a high of $141 million in 2002, to $136.5 million in 2003. Sweet and hot peppers showed a slight increase in the area grown in 2003, and while the price was stable, the total value of sales decreased by three percent. The greenhouse area of cucumbers declined 12 percent, to 27 ha in 2003. However, cucumber production showed an increase of six percent because of higher yields. A price increase of $1.63/kg in 2002 to $1.74/kg in 2003 meant cucumber sales totaled $26 million, a 13 percent increase. Greenhouse lettuce production declined more than 50 percent (227,272 kg) in 2003, while the greenhouse production acreage remained unchanged from 2002. In spite of a higher $/kg ($3.04) farm value for greenhouse vegetable production, totaling $565,000 in 2003, this form of farming demonstrated an overall decrease in production of about 65 percent (B.C. MAFF 2003c).
in the number of farms and a 20 percent increase, from 18 ha to 22 ha, in the average farm size (Statistics Canada 2006a; Statistics Canada 2007b; Metro Vancouver 2007).

Metro Vancouver

The City of Vancouver is the largest city in British Columbia and borders on some of the most productive farmland in Canada (see Appendix A). The agricultural land base is 14 percent of the total land in Metro Vancouver. With 2,618 farms and 3,850 farm operators occupying 41,035 ha, Metro Vancouver earned more than $728 million in 2005 farm-cash receipts, which is approximately 44 percent of Lower Mainland’s and about 28 percent of province’s gross farm receipts on 1.5 percent of the province’s farmland. This represents a 46 percent increase in gross farm receipts since 1996. The increase in gross farm receipts by farmers in Metro Vancouver is similar to what occurred overall in B.C.; higher than the Canadian average, but much lower than the adjacent FVRD. Metro Vancouver has, like the FVRD, 59 percent of its farmland, about 24,086 ha, in horticultural crops. Between 2001 and 2006, Metro Vancouver saw an 8.3 percent loss in the number of farms. The decline is consistent with a trend that has seen a 24 percent decline in the number of farms and a 25 percent decline the number of farm operators since 1996. As in the FVRD, Metro Vancouver realized an increase in farmers over 55 years; 48 percent of farmers representing a 14 percent increase over 1996. As with the FVRD, half of all farm operators are fully employed in farm work. Nearly half (47 percent) of farms in Metro Vancouver were less than 4 ha with another 41 percent of farms between 4 ha and 28 ha. Metro Vancouver experienced a 15 percent increase, from 14 ha to 16 ha, in the average farm size, a trend consistent since 1996 when the average farm size was 11 ha. In 2006, 48 percent of farms reported earning less than $10,000 in the region, which is consistent with previous years (Statistics Canada 2006b; Statistics Canada 2007b; Metro Vancouver 2007).

Horticultural Production

The cooler and wetter climate of the Lower Mainland is unique and it favours the production of the widest variety of fruits and vegetables as field crops than anywhere else in Canada. In addition to horticultural field crops, 95 percent of B.C. vegetable greenhouse production occurs in the Lower Mainland (B.C. ACF 2008). Cropland in Metro Vancouver is primarily used to grow berries (4,643 ha) and vegetables (3,025 ha), not including potatoes (70 farms growing 2,235 ha). Five-hundred-fifty farms in the region grow fruits and berries, while 292
farms grow vegetables. Land area devoted to berries and vegetables increased 29 and 13 percent, respectively, since 1996. The region leads the province in total area for potatoes, beans, lettuce, cabbage, carrots, celery, spinach and squash/pumpkins/zucchini, blueberries and cranberries. Blueberries have increased by 1,228 ha over the last ten years. Since 1996 there has been a steady increase in the land area used to grow potatoes, beans, Chinese cabbage and squash/pumpkins/zucchini. With other vegetables, such as sweet corn, the number of hectares grown appears to fluctuate depending on market conditions. The amount of land used for vegetable greenhouse production increased (71 percent from 502,898 m$^2$ to 1,743,581 m$^2$) despite declining numbers of greenhouse farm operations (277 in 2006 compared to 341 in 1996) (Metro Vancouver 2007: 7). Cropland in the Fraser Valley, like Metro Vancouver, is primarily used to grow berries (4,219 ha) and vegetables (2,311 ha), not including potatoes (27 farms growing 58 ha). Five-hundred-fifty-eight farms in the region grow fruits and berries, while 167 farms grow vegetables. Since 2001, land area devoted to berries increased 7 percent, while vegetables decreased 8 percent. The amount of land used for vegetable greenhouse production stood at 620,597 m$^2$ in 2006 (Statistics Canada 2006c).

The number of certified organic producers in B.C. increased from 154 producers in 1992 to 267 in 2001 and 452 in 2006, with 358 of those being fruit and vegetable farms. These 452 farms had about 13,387 ha of land in production. This trend was evident in the Fraser Basin as well, where the number of organic producers has more than doubled since 2000. About 2,767 farms in B.C., 999 of them fruit, vegetable and greenhouse, reported growing organically but were not certified organic. In 2005, 108 farms representing about 3,557 ha were in transition to organic in B.C. The value of organic production in B.C. in 2005 was approximately, $29.1 million According to Certified Organic Agriculture Association of B.C.’s list of registered and certified organic fruit and vegetable producers, there were 11 producers in Metro Vancouver and 25 in the FVRD representing approximately 112 ha and 124 ha of production, respectively. Of the 1,557 fruit and vegetable farms in the Lower Mainland, organic production accounted for roughly 1.7 percent of the farms and 1.7 percent of the land in production in 2006. In all of B.C. the certified organic fruit and vegetable farms represented 1.8 percent of all farms in B.C in 2006 (Kendrick 2006; Fraser Basin Council 2007; COABC 2008).
B.C.’s Lower Mainland and its Agricultural Capacity

The amount of prime farmland in key farming regions of the province, such as the Lower Mainland, has been diminished and if left unimpeded will create a relatively permanent barrier to its capacity for local food production. Approximately 79 percent of B.C. residents live next to land responsible for 78 percent of B.C.’s farm revenues (Smart Growth BC 2008). Between 1974 and April 2008, a total of 5,389 ha and 6,158 ha have been excluded (i.e. removed) from Agricultural Land Reserve (ALR) in the Fraser Valley and Metro Vancouver, respectively. The Lower Mainland comprises approximately 4 percent of B.C. total ALR lands (B.C. ALC 2008). All Fraser River Basin regions – within which the Lower Mainland resides - have experienced a net loss of prime, secondary and mixed quality agricultural land since 1974; one year after he ALR was established. ALR was established to prevent the conversion of farmland in the province into non-agricultural uses. At the end of 2007, the ALR covered about 4.8 million hectares (B.C. ALC 2007). The Since 1974 there has been a net loss of approximately 7,000 ha of prime land in British Columbia, with most of this loss occurring in the Lower Mainland (B.C. ALC 2008). According to the University of Victoria’s Environmental Law Clinic, B.C.’s Agricultural Land Commission increasingly fails to protect farm land from development. Citing decisions to exclude farm land from the ALR, the Law Clinic noted that 70.5 percent of applications for removal of property from the ALR throughout B.C. were approved between April 2002 and March 2005 (Boei 2006). Since 2002, 86 percent of the land excluded from the ALR has been in southern British Columbia (Cavendish-Palmer 2008). According to B.C. ALC (2008), 71 of 73 exclusions granted by the ALC since 1974 in the Lower Mainland were for prime agricultural land.

Characterization of BC/Lower Mainland Horticultural Supply Chains

Horticultural supply and distribution arrangements in the Lower Mainland are currently dominated by large scale operations and infrastructure suitable to the global network to which it is both a part and a reflection. As such it services an expansive food service industry in the Lower Mainland that generates a substantial amount of economic activity. In 2005, the contributions to economic spin-offs in food processing, food wholesaling, retailing and service sectors translated into consumer sales at the food retailing and food service

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6 For the purpose of this thesis, “horticulture” refers to field and covered crops comprising fruits and vegetable but not nursery and sod field and covered crops.
industry level of approximately $18.5 billion. These consumer sales were made possible from upstream sales transactions in B.C.’s agri-food chain which comprised of agricultural sales ($2.4 billion), food processing sales ($6.7 billion), and food wholesaling ($9.9 billion). These agri-food-related businesses employed 259,090 people on farms, agriculture services, food processing, food wholesaling and distribution, grocery stores, specialty food stores, restaurants and food service, which was an increase from 2003 of 23,275 people.

Also, the food processing and manufacturing sector for horticultural crops in B.C had combined sales/shipments of $528 million in 2005, up by more than $100 million in 2003. In terms of the number of agri-food industry establishments, there were 1,182 food manufacturers/processors, 1,934 farm product and food wholesalers, and 16, 854 food and restaurants/food service establishments in B.C. in 2005. The average annual agriculture-related employment in the Lower Mainland fluctuated between 13,600 and 20,000 people between 1997 and 2007, settling at 15,800 in 2007. Out-of-country exports of B.C. fruits and vegetables sent to more than 50 countries grew to $551.1 million in 2007; an increase over 2003 figures ($455 million) but a decline from 2005 ($558.6 million) (B.C. Stats 2008). B.C.’s top three agri-food export markets are the United States, Japan and China with sales of $16.7 billion, $2.6 billion and $903 million, respectively. Of B.C.’s top 20 high growth farm commodities between 1996 and 2005, 14 were fruits and vegetables with percent growth between 58.3 and 418.7 percent (B.C. MAL 2006). Disaggregated agri-food industry sales and statistics for fruits and vegetables in the Lower Mainland, Fraser Valley Census District or Metro Vancouver Census District, were not readily available from Statistics Canada and CANSIM data.

According to COABC (2005), there were 103 certified organic processors in B.C. in 2005. Of these, four fruit and vegetable processors could be found in the Fraser Valley and seven in Metro Vancouver. Certified food handlers or packers and re-packers numbered two and one in the Fraser Valley and Metro Vancouver, respectively. The number of certified organic distributors in the FVRD and Metro Vancouver were 1 and 11, respectively.

The number of local farmers’ markets in B.C. has grown from 60 in 2000, to 100 known markets in 2006, 28 of which are in the Fraser Basin and 14 in the Lower Mainland. Results from a University of Northern British Columbia study of 10 Fraser Basin farmers’ markets found that, on average, 1,670 people attended each market, spending between $11 and $21
per person, and that each farmers’ market contributed between $210 and $1.5 million annually to the local economy (FBC 2006: 6; Connell 2006).

**Problem Definition**

Food plays a rich multitude of roles in our everyday lives. However, the inherent personal, communal and biological interconnections that provide meaning to the food we eat have become progressively fractured (Berry 1995, 1993; Clancy 1993; Curtin 1992; Heffernan 1986; Heldke 1992; Lang 1994; McMichael 2000; Welsh and MacRae 1998). Our progressive loss of connection with the food we grow and consume essentially reflects within a microcosm of the B.C. Lower Mainland the increasingly global, corporate-driven, neoliberal market forces that have grown in apparent strength since World War Two, as well as the advent of the World Bank, International Monetary Fund and, more recently, free trade agreements within the World Trade Organization. During the past 25 or more years, the role of free (i.e., progressively deregulated) markets has become increasingly powerful because of growing transnational corporate integration within the agriculture-and-food industry (Daly 1996a; Goldsmith 1996; Harrison and Rude 2004; Heffernan 1999; Henderson and Heffernan 2002; King 2001a; Kneen 2002; Krebs 2002; Lang 1997, 1999a, 1999b; Lyson and Raymer 2000; McMichael 2000; NFU 2000; Troughton 1985; Winson 1993).

The neo-liberal economic goal toward a single integrated world market is arguably unsustainable, and ultimately untenable, because it can neither operate in the long-term outside the boundaries of Earth’s non-growing, finite biophysical resource and its regenerative/assimilative capacities, nor can it operate without subsuming and harming social systems through a maldistribution of wealth and power (Andersson and Lindroth 2001; Daly 1996a; Goodland 1996: 207; Heffernan 1986; Ravaioli 1995: 54-60). Neo-liberalism assumes that society can benefit most from competitive human behaviour, rationalized and motivated entirely by individual and corporate self-interest for greatest economic gain. Free-market capitalism’s tenets hold that economic growth can be sustainable through resource replacement, that it can result in the most efficient and socially optimal allocation of resources, that increases in economic efficiency and growth generally benefit everyone, and that localities can best achieve economic success by becoming internationally competitive rather than locally dutiful (Daly 1996b: 229; Korten 1998: 184-185; Stiglitz 2003).
In addition, globalized food production and distribution systems are composed of distant geographical, psychological and socioeconomic relationships. These relationships have become protracted, opaque and undemocratic, and are lobbied by relatively few people among multinational corporations, manipulation of international financial institutions and governments, mostly in industrialized/economically developed, northern countries. Many political and economic policies in “developed” nations assume that “comparative advantage” and “capital mobilization” are superior approaches to economic efficiency within the global food market. As a result, these terms have become a widely accepted, or at least convenient, means for food production and distribution, as opposed to diversified, small-scale, decentralized local-food systems that tend to observe biophysical limitations and effectively address socioeconomic needs (Busch 2000: 122-133). Free-market capitalism, as it is practiced under the tenets of neo-liberal economics, minimizes or dismisses entirely the qualitative value of human cooperation and the qualitative measures of human, social and economic progress. Its tenets dangerously reject the finite capacity of ecological services and biophysical resource capital, or the fact that capitalism should define and, by extension, characterize sustainable economic strategy and the level of tolerance for human folly (Andersson and Lindroth 2001; May and Bonilla 1997). Such a market system operates at the risk of fostering distributive injustice between labour and capital, separating ownership and control of labour and capital, diminishing the value of democratic processes at the local and national level, while multinational corporate, monopolistic autocracy for smaller scale businesses, pluralistic democracy and local self-determination (Daly 1993: 124-130; Rees 2000).

The implicit and explicit distancing of a globalized, free-market food system ultimately undermines the value of social, economic and ecological interconnections and interdependencies between people and the limited biophysical resources and processes of food that sustain the planet. It diminishes the ability for society to realize the social and environmental costs of production, and it disables consumers’ food skills, while continuing to support complicated, fragile transportation and distribution networks (Lyson and Raymer 2000; Kloppenburg, et al. 2000). As a result, dominant market forces dictate the patterns of technological and local land-resource use, and distort consumer expectations about the role of agriculture for food and society (Berry 1995, 1993, 189; Curtin 1992; Daly 1996b: 229-238; Gardner 2002; Kneen 1989). In addition, agricultural management and global food-production systems become patterned after corporate, industrial models that emphasize
centralization, private ownership, economic efficiency, standardization and economies of scale above that of local-scale, disregard for biological efficiency and biophysical limits, and reliance on technological substitution for natural resource limits (Lehman and Krebs 1996; Dahlberg 1998, 1996; Flores and Sarandon 2004; Hinrichs 2000; King and Feenstra 2001; Stern 1997; Whit 1995). From an agroecological perspective, the neo-liberal economic forces that drive global trade liberalization encourage local food-system stakeholders to become dependent on extra-regional food products for everyday food needs. These same global market forces that unfairly challenge the local food industry’s ability to be competitive at the local level also play a significant role in food-system vulnerabilities.

In the current free-market environment, food-system vulnerabilities created by global climate change, land-use conflict in the Agricultural Land Reserve (ALR) of the Lower Mainland, the introduction of biosecurity concerns and measures, and the ramifications of peak oil accentuate the challenges for local food producers and buyers, and complicate local efforts to establish food security. The high level of international trade in food-and-agriculture products is inherently unsustainable, because global trade is utterly dependent on the availability of subsidized petroleum for every aspect of “cheap” food production: petroleum for transportation, fertilizer production, cultivation, processing, storage, packaging, biosafety and security measures and waste disposition.

Local and global food systems are fragile in the face of relatively unpredictable consequences associated with global climate change, including the B.C. climate (Environment Canada 2005; NFU 2003), with the average global temperature expected to increase between 1.4°C and 5.8°C by the year 2100, and the growing need for irrigation agriculture (ISS 2005; IPCC 2007). Nearly all local and all global food-and-agriculture systems are dependent on crude oil and natural gas, and are thus vulnerable to the political and socioeconomic consequences of peak oil, generally expected to manifest between 2008 and 2015 (ASPO 2005; ISS 2005; Appenseller 2004). In the Lower Mainland of B.C., an area of high regional population growth, one of the most relevant natural-capital issues affecting agriculture involves the loss of productive land within the Agricultural Land Reserve to non-agricultural uses (Baxter 1998; Parfitt 2008; SWCS-BC 2005). Biosafety concerns represent a further obstacle to agricultural land preservation. International developments,

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7 The point where half of all conventional oil and gas resources that can be recovered, has been recovered. After this point, the growing demand for oil and gas resources and the decreasing availability of oil and gas resources – recognizing that the price for petroleum products is neither perfectly inelastic nor perfectly elastic – diverge.
such as centralized food processing of large batches, distribution and storage, loss of genetic diversity in farm animals, increased rapid transport and trade, a rise in antibiotic-resistant bacteria, an aging population and an increased potential for intentional contamination all represent complex and emerging biosafety concerns (FAO 2001), and their effective resolution is made more difficult by inherent self interest of the food industry (Nestle 2003).

Neither a “corporate-centric”, nor a “farm-centric” policy approach to local food security is adequate for the creation of a self-reliant food system. Taken individually, each approach focuses on narrowly defined problems and reductionist solutions that do not effectively address systemic food and agriculture issues. Sustainable local food security and food self-reliance depends on a local-food-production and distribution system geared not to endanger public, ecological and socioeconomic health, as it internalizes its costs, builds healthy and systemic marketing relationships between local producers, local food buyers (e.g. restaurants, wholesalers, processors and organic food delivery services) and consumers8 and operates through an enabling framework of public policy that fosters market cohesion through stakeholder (citizen) participation. Thus, agricultural sustainability and public health become integrated, with food being the glue that binds the relationship between the quality of life and the quality of the land, and health being the economic determinant for developing responsible policy and practice to guide human endeavour.

The notion of local food self-reliance does not imply 100 percent self-sufficiency in terms of its production capacity. Instead, local food self-reliance constitutes a balance between global imports and local food sourcing and marketing that allows the region in question to take full advantage of its food production, processing, distribution, nutrient cycling and marketing potential. Local produce sourcing, marketing and distribution based on localized food production should be structured in the interest of regenerating and preserving local food-production capacity (e.g. the maintenance of biodiversity, nutrient cycling and fair wages), enhancing local food security and contributing to the overall sustainability of society. Reductionist local food-policy, based upon an incomplete understanding of the relevant issues regarding food-and-agriculture systems, creates additional barriers to sustainable

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8 By “producers” I am referring to the farmers and their primary resource industry of agricultural products. “Buyers” are all those people or businesses that purchase the primary resource for resale (i.e., wholesale or retail) with or without adding value in the process. This would include restaurants, wholesalers, green grocers, home delivery services and supermarkets.
food self-reliance and food security. This study suggests that expanding and strengthening local horticultural product sourcing and marketing relationships, which in turn is supported by sophisticated supply chain logistics and infrastructure, can address numerous challenges that have evolved, at least partly, from a globalized agro-food system, and contribute significantly local food-system resilience and integrity (i.e., local food security). In an era of agricultural industrialization and transformation in which its natural and cultural foundations have become degraded, the power of food lies in its material and symbolic functions of linking nature, human survival, health, culture and livelihood as a focus of resistance to corporate takeover of life itself (McMichael 2000: 21).

**Research Questions**

1. How do BC Lower Mainland producers of fresh fruits and vegetables and buyers in the City of Vancouver perceive their current and potential capacity for local food sourcing and marketing relationships?

2. Given the findings to research question one (1), and the established context/thesis within which there may be discernible benefit to re-localization of the horticultural supply chain, what recommendations can be made to inform public policy development that facilitates re-localization?

**Introduction to Research Methods**

In accordance with the principles of a case-study approach, I collected data by conducting structured interviews with food-service providers, retailers and wholesalers within the city of Vancouver and fruit and vegetable producers in the FVRD and the Metro Vancouver region. I asked each of my interview subjects the same series of straightforward questions, each designed to explore that market participants sourcing and marketing relationships with the other market participants, and to uncover perceived barriers and opportunities for developing greater channels for food production and distribution in the local marketplace. The study participants included owners or managers of restaurants, green grocers, home-delivery services, supermarkets and food stores, as well as local producers.

As this was an exploratory study, I conducted 39 interviews between March 2003 and January 2004 after clearing University of British Columbia interviewing protocols and

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9 In this study, sourcing is an activity or process conducted by food buyers (e.g., green grocers, processors, restaurants, caterers, etc.) to seek out food and/or agricultural product (raw or processed) suitable to produce their end-product.
receiving an ethics panel certificate. I acquired permission from each participant—identified through a randomized selection process—and a subsequent bulk mailing of interview requests that introduced the subject of my thesis and requested possible future interviews. Both organic and conventional producers were included on the list, as well as a variety of food-service employees, retailers and wholesalers, in order to provide a wide range of opinions and perspectives on the subject. In instances involving the failure of interview requests, an additional request was mailed if necessary. In cases involving shortages of interview participants in any of the aforementioned categories, participants were asked to recommend alternative interview subjects.

All research interviews were recorded in person or by phone (with the permission of the participant) using the Sony Net-MD, MZ-N1 MiniDisc recorder. The transcripts of the interviews were transferred to full-size CDs to facilitate transcription and encryption in a personal laptop, ensure secure storage and offer potential reuse of the MiniDiscs. All of the interviews were transcribed over the course of the interview process, from March 2003 to March 2004. The NVIVO7 qualitative data analysis program was used to assist in the analysis of the data.

Scope of the Study and Geographical Delimitations

This study is focused primarily on the food sourcing and marketing relationships between producers in the Fraser Valley Regional District and Metro Vancouver region and the food-service providers, retailers and wholesalers located in the city of Vancouver. Producers outside the Lower Mainland of B.C. also market fresh fruits and vegetables through food service, wholesale and retail-market channels in the city of Vancouver; however, I do not include detail of these regions. I recognize, however, that the Vancouver food market benefits from the productive capacity for fruit in the Okanagan region of B.C. For the purposes of this study limiting the geographic context is useful for manageability, and given that the Okanagan region is at least four hours outside the City of Vancouver.

Located east of the Coast Mountains with a warmer, drier climate, the Okanagan is an important tree-fruit and wine-grape-growing region. However, to include the Okanagan in this study would have added significant burdens in terms of this researcher’s limited financial and time resources. Likewise, an area south of the B.C.-United States border in the
Whatcom and Skagit counties of the State of Washington could be considered “local” by definition. However, this region is excluded for the simple reason that the movement of food and agricultural products across this political and international border would constitute international trade, and the fact that as a political entity, this U.S. region is subject to some of the food-security concerns discussed in this study. I focused specifically on vegetable and berry-fruit producers in the Lower Mainland, included data on other commodities from the whole of B.C., Canada and/or the United States. The disadvantage of limiting the scope of the study participants to the Lower Mainland of B.C. was its exclusion of important agricultural areas and commodities that make a significant contribution to the province’s food and agriculture economy. However, these exclusions do not make the findings of this study irrelevant, since other producers and buyers of food and agricultural goods would likely benefit from greater clarity regarding potential market opportunities in the Lower Mainland. Also, other localities considering food system re-localization may find helpful parallels to the Lower Mainland region under study, depending upon how interested parties choose to take advantage of the information and policy recommendations from this study.

Research Limitations

The participants I interviewed for this study represented the marketing channel from which they were selected. Since this study was qualitative by design, its intent was to gain broad stakeholder perspectives, while seeking out common experiences among study participants. A random-selection process, using potential interview candidates within each respective food-market category, acted as a control for representation. With regard to the selection of vegetable and fruit producers, I decided geographical representation was more important than random selection and, therefore, chose my interview candidates accordingly. Appropriate attention had to be paid to instances involving generalizing across populations within represented marketing channels. Any claims were qualified by the sample size, emphasizing the exploratory nature of the study and the potential for future researchers to test emerging working hypotheses.

The availability of statistical data concerning the food service, retail and wholesale industries is restricted in at least three ways. First of all, historical information on the food-service industry is incomplete, because business classifications change over time, and are different from federal or provincial business classifications. Second, restaurant and food service-
industry associations and marketing research companies hold their membership information and industry records as proprietary data, and thus restrict their availability to paying members or those willing to directly purchase the information. Data is also rendered incomplete within this industry, since a varying number of restaurants and food-service establishments are actually members of their respective associations.

Finally, the retail data available from Statistics Canada and Statistics B.C. is only available to the public in the form of aggregate figures. In short, one must exercise caution about applying the data to make generalizations about the behaviours and activities of those involved in the food service, retail and wholesale industries. This study omitted analysis of the potential for other regions of Western Canada and the Northwest United States to be used as local sources of agriculture products for the city of Vancouver; therefore, no producers from these regions were included in the interview process.

Research Assumptions

Local agriculture includes all scales of agriculture, food and fibre processing and production that take place within the geopolitical boundaries of the Metro Vancouver region and FVRD, comprising the Lower Mainland of B.C. Because of the magnitude and complexity of the Lower Mainland’s agricultural community, this study takes into account the need to restrict its research focus and manage its data within the narrow confines of a thesis. Also, the researcher’s time and other resources were limited. Therefore, to simplify this study, only fruits and vegetables (i.e., produce) were considered for analysis. Nevertheless, narrowing the focus in this way does not necessarily deny this study’s applicability or relevance to other agriculture products, and by extension, to further studies of food security.

Significance of the Study

The results of this study could currently be incorporated into the Vancouver Food Policy Council’s growing knowledge base, and ultimately be applied to policy making and advising in relation to local food-security and public-health issues. In addition, this research could enhance public awareness about the problems associated with an excessive dependence on food from a global supermarket, such as the externalized costs associated with pursuing and ensuring a supply of food and agricultural products from faraway places, and such a
market scenario under an industrialist model. Increased public awareness about the role of producers, buyers and consumers as land stewards might lead to a growing appreciation for the value of open space and green space as public goods—as ecological, economic and social attributes and services to society.

Since 1973, when legislation was created to preserve agriculturally capable land, as well as to promote agriculture in B.C. (i.e., the B.C. Agricultural Land Reserve Act and Agricultural Land Commission), stakeholders have struggled to maintain the physical integrity of the Agricultural Land Reserve in the face of a growing population and subsequent land-development pressures. An increased public awareness about the importance of land preservation could lead to the development of food-and-agriculture policy that takes into account a higher order of understanding of agriculture and food’s role in regional economic, social and ecological integrity of the Lower Mainland. These policies, in turn, may foster greater public support for preserving remaining ALR lands. Ultimately, a better-educated public may consider itself entitled to greater access to a local food supply and demand a higher productive capacity from its local farmland.

As society grows more aware of food-and-agriculture-system vulnerabilities, it will become increasingly difficult for the globalized and industrialized food-and-agriculture supply system to maintain the status quo. Climate change, energy costs, and biosecurity—among other localized and global concerns—will undermine the organization, structure and function of the globalized food supply system, leading communities to seek greater food security through re-localized food and agriculture systems. This emerging awareness of food-system vulnerabilities will have varying degrees of influence across the globe. But scarce access to a secure food supply will certainly introduce additional sources of potential conflict over social, economic and natural resources, as people and nations adjust to the self-imposed consequences of globalization, industrialization and neo-liberal ideology. At the same time, the ability of various localities to compensate for their diminished access to a global supermarket and their efforts to re-localize food and agriculture systems may be severely limited by the reduced natural capital and system capacity expropriated under an unsustainable economic regime.

The loss of agricultural land to urban encroachment in B.C.’s ALR demonstrates such reduced access to natural resources—a tragic series of events that has been repeated
again and again during the past 60 years, throughout North America and other developed and developing countries. On its own, this study is unlikely to have a dramatic impact on the effort to secure sustainable food and agricultural systems; yet, this study represents a modest parable within a much larger story that needs to be told, heard and understood by as many people as possible. Lastly, although this study is focused on the geographic region representing the City of Vancouver and the Lower Mainland, there may be relevance and, therefore, transferability of the findings and recommendations to other municipalities and their surrounding regions. Much of the context established here in has similar bearing on nearly any jurisdiction in North America, or wherever agricultural land is undervalued for its food production potential, in light of system vulnerabilities discussed in this thesis.

In the interests of reaching a wider audience, a number of local organizations are available to possibly distribute or disseminate the research in question via linkages with their web pages or through other media forms. These organizations include Smart Growth, City Farmer, the Real-Estate Institute, the International Centre for Sustainable Cities, the Vancouver Food Policy Council and the B.C. Ministry of Agriculture and Lands, along with members of the mainstream media such as Business in Vancouver Weekly and a variety of food-security organizations. The results of this research might also be more thoroughly debated and discussed through professional and peer-reviewed journals such as Journal of Renewable Agriculture and Food Systems, Agricultural Systems, Agriculture, Ecosystems and Environment, Food Policy, Urban Ecology and Agriculture and Human Values.

Summary

This thesis makes the case for the creation of a policy or institutional framework to enable the development of an economically viable local food production system. This exploratory study examined, from an agroecological systems framework, the culturally induced and manufactured forces that pose a challenge to local food producers and buyers, as well as additional food-system vulnerabilities, such as global climate change, the loss of productive capacity from our Agricultural Land Reserve, issues of biosafety and the ramifications of peak oil. These concurrent stresses and vulnerabilities may increase the challenges for local food producers and buyers, thus complicating local efforts to establish effective food security. At the same time, this study suggests that a positive outcome toward addressing these vulnerabilities at the global and local levels could involve expanding and strengthening
local food sourcing and marketing relationships that effectively respond to these numerous market challenges. Such activities could enhance local food self-reliance and food security while strengthening local-food-system integrity, and give rise to opportunities that promote local business and improve environmental and, population and public health. As well, communities may consider the value potential of comprehensively integrating population health issues with local environmental, urban and regional planning and—ideally—with food-security initiatives.

**A Guide to This Thesis**

The first part of this thesis is organized in a standard format for such endeavours. The next three chapters that follow, *Review of the Literature, Theoretical and Interpretive Framework* and *Research Methods*, respectively, are an opportunity to reveal the nature and context of the problem of a globalized food system and develop a conceptual framework for the re-localization of food and farming, the theoretical basis and interpretive lens by which I conduct my analyses and deliver my assessments, and lastly, describe the qualitative method(s) utilized to collect and interpret data. Chapter 5 is a presentation of my comprehensive results and findings, based on the interviews conducted with selected local food-system stakeholders. Chapter 6 is a discussion that synthesizes the preceding material, and proposes policy considerations for the Vancouver Food Policy Council to develop or advocate food security measures that identify and strengthen local horticultural supply chain and market opportunities. In Chapter 7 I present the conclusion and suggestions for further research.
CHAPTER 2: LITERATURE REVIEW

The objective of the following literature review is to develop the local context of current conventional farming and food production. I will discuss the characteristics—and potential benefits and challenges—of a local food system and argue that such a system presents a relationship-based alternative to the globalized food production and marketplace model. As is shown in the literature, an evolving local food-and-farming-systems model would place greater value on the integrity of individual, collective and ecological relationships and processes, than can be found from an industrial agriculture model. Localization contrasts markedly from the globalized model where distant market forces emphasize industrial efficiency. The struggle for a sustainable food-and-agricultural model is an exercise of empowerment as local citizens make food choices that challenge the efficacy of outside economic and political forces for control and determination of their food production and consumption.

This chapter is organized into two parts. First, a discussion of the main impediments to horticultural re-localization where, under globalization and its foundation in neo-classical economics, there is an emphasis on intensive, export-oriented production of agricultural commodities, a consolidation of various agri-food sectors along the dominant agri-food supply and value chain, and an emergence of relatively new food system vulnerabilities. The second part discusses re-localization as a food system alternative, looking first at the potential role in addressing system vulnerabilities, the prospect of self-reliance in British Columbia, and finally alternative food system concepts that inform re-localization, and its value as an substitute for the dominant agri-food model.

**Main Impediments to Horticultural Re-localization**

Most horticultural crop producers in the Metro Vancouver region and Fraser Valley Regional District find themselves unavoidably competing within globalized agriculture and food supply chain systems that are controlled by relative few powerful market entities. Globalized agriculture and food-supply systems can reduce economic opportunities for producers in local food-production systems that do not participate—either by choice or by circumstance—in the global market system. Therefore, many horticultural producers in the Lower Mainland of British Columbia, especially small-scale producers, experience difficulty maintaining
economic viability and relevance. In addition to globalization, food-system vulnerabilities manifested by such issues as agricultural intensification, global climate change, land-use conflicts, biosecurity concerns, and increasing energy costs are becoming ever more salient issues for local horticultural producers and buyers. These challenges and impediments, however, add relevance to food security efforts and inform market-based responses at the local level.

Globalization and Neo-Classical Economics

Notwithstanding the economic fluctuations of the past 60 years that encompass the period between now and the end of World War Two and beginning of GATT\(^{10}\), the last two decades have borne witness to many factors affecting the market structure of the agriculture and agri-food business in Canada. The signing of FTA\(^{11}\) in 1987, CUST\(^{12}\) in 1988/89, NAFTA\(^{13}\) in 1993, the WTO\(^{14}\) multilateral agreement in 1994 significantly reoriented the function of agriculture and agri-food systems toward export-oriented trade and the opening of domestic markets to greater levels of competition from imports (Burroughs, et al. 2001: 2). International trade, although balanced in monetary terms, may be unequal in terms of the exchange of biomass and sink-capacity. It may also be unilaterally or mutually unsustainable if it implies the overuse of the bio-capacity in either one or both of the trading partners (Andersson and Lindroth 2001: 1). The expansion of market opportunities through trade-liberalization measures also promoted vertical integration of food and agriculture processes and modernization in North America: firms then searched to secure stable and reliable sources of primary products for their new high-capacity processing operations, built by substantial contributions of foreign direct investment in capital development (Henderson and Heffernan 2002). This shift has enabled a concentrated group of retailers, wholesalers and brand manufacturers in industrialized countries to capitalize and outsource production to manufacturers who contribute to larger economies of scale at the points of production and processing (Heffernan and Constance 1994; King 2001a; Kneen 1990, 1999; Mander and Goldsmith 1996).

\(^{10}\) General Agreement on Tariffs and Trade—international trade.
\(^{11}\) Free Trade Agreement between U.S. and Canada.
\(^{12}\) Canada and United States Free Trade Agreement.
\(^{13}\) North American Free Trade Agreement—includes Canada, U.S. and Mexico.
\(^{14}\) World Trade Organization—the official adjudicator to facilitate global trade and the successor to GATT.
In a globalised food supply scenario people become dependent on invisible intermediaries who have no stake in the local communities, eroding the ability of individuals to determine and influence the scope and depth of a more local agro-food system. Thus, the process of globalization and agri-food industrialization systematically removes political and economic power from local residents or citizens. This process effectively dismantles farm-based economies and shifts decision-making power away from local bureaucracies (DeLind 2002; Lang 1999a, b; and Lyson 2000). In addition, many people living in urban areas take their access to food for granted, resulting in a self-reinforcing effect on the globalizing of the food system. While people within smaller scale economies are often deeply engaged in the decisions that affect them, this involvement rapidly diminishes once they are linked to a much larger scale economic system (Norberg-Hodge, et al. 2002). Also, while transportation networks tie high-yield croplands to consumers in the world’s cities and facilitate access to the globalized agri-food system, they can encourage suburban development that places pressure on local agricultural lands, collectively imposing costs that can easily be easily dismissed (Burchell 2002; Papendick et al. 1986).

Given the unaccounted costs of the current food system, we are confronted with a dominant approach to economics that is limited by its emphasis on economic efficiency and the trade imperative. According to Kimbrell (2002: 56), the narrow definition of economic efficiency reflects the dominant agribusiness perspective: large-scale, monocultural production is more important than producing multiple crops on a smaller scale. In addition, arguments that focus on economic productivity generally tend to ignore ecological issues, as well as the social and human-health costs of production (Lang and Heasman 2004; Lang and Rayner 2002; Qualman and Tate 2004; Qualman 2001). Industrial farming does not account for its externalized social and environmental costs (Daly 1996a). Thus, economics has significance beyond neoclassical definitions of productivity and efficiency that “make no distinction between the desirable and the undesirable, or costs and gain… [where] every item of commerce [is] assumed to add to the national well-being merely by the fact…that it [is] produced and bought…” (Cobb et al., 1995: 29-30).

Mainstream economists may sincerely believe that if Canada no longer produces agricultural products, adequate food can be purchased at a lower cost through imports from

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15 By self-reinforcing, I mean that existing socioeconomic activities and market conditions not only persist but strengthen as the means to produce food (e.g., access to land and sufficient income) increasingly diminish for all but the most powerfully situated in the marketplace.
countries where it can be produced more efficiently; a function of comparative advantage. Thus, as reliance grows on foreign horticultural crop production capacity, agricultural land in the Lower Mainland of British Columbia can have a higher “value” as residential development property. Accordingly, mainstream economists argue that this scenario reflects the workings of a “free market” economy; so long as the economic benefits still exceed the economic costs (Daly 1993, 1996a; Coffin 1987). However, as costs for land and labour continue to rise, transnational corporations can move their food and farming operations to other countries. The balance of benefits of increased economic efficiency is not going to consumers or farmers, but to corporations. In the pursuit of economic efficiency to lower the cost of food, the growing environmental and social costs of agro-food industrialization are disproportionately borne by society.

It may not be feasible to rely exclusively on global market forces, regardless of the potential opportunities such forces supposedly provide for innovative, private entrepreneurship. Instead, it may be more appropriate to rely upon agricultural planning and design, emphasizing a systems approach with local solutions and involving a cross-section of local civic society (Kaufman et al. 2007; Altieri 2000a; Pothukuchi and Kaufman 1999). Under such a scenario agricultural planners and citizens would need to subject their projects to the potential constraints of social equity, ecological sustainability, economic viability and balanced human-settlement strategies, while their designs would necessarily overcome the traditional dichotomy of rural-agricultural/urban-industry. Importantly, those involved would need to emphasize the integration of local economies and seek a symbiotic relationship between the countryside, small-town and regional centres (Sachs and Silk 1990: 45). To accurately compare the efficiency and productivity of small and large farms, a shift from single-crop-yield measurements to a more holistic picture of total agricultural output (products and services) must be balanced against total farm inputs, costs and externalities (Kimbrell 2002: 58). However, such an analytical framework is far more complex than the neoclassical-economics model permits. Outside the mainstream marketplace, other dimensions of human economy must be considered in an effort to assess economic impact and progress. An honest assessment of economic efficiency in a food system requires a broader framework for understanding the multidimensional nature of food systems, including the benefits and costs of all economies directly affected by these systems (e.g. environmental, health, social/cultural, market, production and technological knowledge, and

Agriculture Intensification

In order to accommodate export-market objectives, agriculture and food production has become increasingly industrial and corporate in structure and function during the past 50 to 60 years. These objectives grew out of policies that promoted economic globalization and were created to meet the growing needs of downstream agri-food sectors, such as processing, packaging and distribution sectors (Winson 1992 1993). The intensification of farming practices through the use of high-yielding crop varieties, fertilization, irrigation, mechanization and pesticides—while significantly increasing food production since the mid-20th century—has also altered the local, regional and global biosphere with undesirable ecological, social and economic consequences (Papendick, et al. 1986; Arden-Clarke 1988a; Matson, et al. 1997; Altieri 2000a and 2000b; Lucas and Hines 2001; Pirog and Van Pelt 2001; Pretty 2000; Pretty and Brett 2000; Monbiot 2000; and Meadows 2000). The negative environmental impacts of current agricultural practices include soil degradation, water depletion and contamination, inefficient energy use, loss of plant and animal genetic diversity and destruction of non-agricultural habitat (Pimentel and Pimentel 1979; Hodges and Schofield 1983; Hallberg 1986; Papendick et al. 1986; Arden-Clarke and Hodges 1987, 1988; Arden-Clarke 1988b; Soule et al. 1990).

There are three significant, overriding corporate agri-food industry objectives, each a reflection of their inexorable drive to lower costs, upon which corporate agribusiness thrives: (1) by substituting capital for efficiency and technology for labour; (2) by standardizing the food supply; and, (3) by creating synthetic food. As technological (i.e., purchased) inputs increased, human-labour requirements and other on-farm resources (inputs not purchased) have been significantly reduced. The results of these activities have been dramatically increasing yields and a growing, gross-operating income (Cochrane 1979: 126-127).

Technological inputs have also increased farmers’ dependency on off-farm, expert knowledge from the agricultural input industry and from government institutions, in order to address related environmental and rural-social concerns. This dependency on expert knowledge has thus facilitated, along with a devaluing of local knowledge, an increasing level of standardization or homogenization of agricultural production (Morgan and Murdoch 2000). In pursuing each of these objectives, corporate agribusiness has sought first to
diminish the role of family farmers in the production of food. It has also sought to relegate the farm community to a small and select group of economically and politically impotent raw material producers serving a food-manufacturing system. Such a system can be controlled from afar by a select number of large corporations and economically powerful individuals. A global agri-food system demands the centralized operation of “monocultures” (i.e., single commodity agriculture systems) that require intensive and expensive external material and energy inputs (Norberg-Hodge and Gorelick, 2002). Natural resources and ecosystem services, such as nutrient cycling, soil regeneration, natural biodiversity and air and water cleansing, are largely disregarded, imposing tangible and intangible costs which threaten the integrity and longevity of the ecosystems that support food systems. As such they borrow waste and emissions absorption capacity from people with lower consumption levels, and to borrow from future generations (Stagl 1999). According to Lehman and Krebs (1996) increasingly urban societies have the potential to become entirely dependent on multinational corporations which could own the farmland and employ framers as their own “farm managers”.

Global developments have also affected the way food is delivered to the table. Since the 1950s, accelerating technological and infrastructural changes have created a food system conducive to the long-distance transport of food resources. Refrigerated trucks, reduced gas prices and a subsidized highway system have contributed to a convoluted agri-food-delivery system. Today, food travels an average of 2,400 kilometers in North America from farm to table—a 25 percent increase from 1980—with an accompanying increase of transportation energy, non-point source pollution and carbon emissions. The reliance on global food production also presents potential implications for public health. For instance, certain products and practices have been directly linked to human health problems, including illness related to animal antibiotics (Spika 1987), nitrates in groundwater (Power 1987), exposure to pesticides in an occupational setting (Center for Rural Affairs 1984; Hoar et al. 1986; Blair 1990; Wigle et al. 1990), pesticide residues in foods (Mott 1984; Clancy 1986), food additives (Lowrance, et al. 1986), several food-processing techniques (Hall 1974; Grimme et al. 1986; Gussow and Clancy 1986), and food-borne diseases such as the current *Listeria monocytogenes* outbreak associated with Maple Leaf ready to eat meats (CFIA 2008). Furthermore, some evidence suggests that conventional soil-management practices may result in a loss of the nutritional value in foods (Voisin 1959; Albrecht 1975; Bishop 1988; Kristensen 2008).

Consolidation of the Agri-food Sectors

As a result of the horizontal and vertical integration\(^\text{16}\) of the food production, processing, retail and marketing sectors, everyone involved in the process of food production, distribution and consumption is directly affected by market coordination and consolidation. Heffernan and Constance (1994), Hendrickson and Heffernan 2001, Hendrickson (1995), Magdoff and Foster (2000), Pollan (2001), Shiva (2000), Halweil (2000a, b) and Schlosser (2002) collectively provide a broad analysis and critique of the environmental, social and economic implications of the consolidation of the agri-food industry upon family farms, rural economies and consumers. SUSTAIN and Elm Farm Research Centre (1999), Lang (1999a), Norberg-Hodge, et al. (2002), Lucas (2001), Hendrickson and Heffernan (2002) argue that the normative, but arguably counterintuitive, nature of global-food trading and swapping creates food interdependencies, affecting buyer and seller relationships in such a way that food travels increasingly longer distances and through narrower market sector channels. Heller and Keoleian (2000: 9) assert relationships built through mergers, acquisitions, partnerships, contracts, informal agreements, corporate strategic alliances\(^\text{17}\) and joint ventures are complex. They are production-chain alignments, often seen as subverting farmers’ independence and reducing their roles to subcontractors responsible solely for supplying and/or producing raw materials for food companies and retail chains. Lyson and Raymer (2000) and Schwartz and Lyson (2007) describe another form of control by ten of the largest food and beverage corporations as a web of indirect “interlocking

\(^{16}\) Vertical consolidation is the phenomenon whereby businesses move into a niche on either side of their current niche in the food-supply chain, while horizontal consolidation affects the number of operators within a company’s current niche.

\(^{17}\) Corporate strategic alliances are sometimes referred to as “vertical network alliances” (Sporleder 1999), “strategic networks” (Jarillo 1988), “vertically coordinated” (Galizzi and Venturini 1999) or “clusters” (O’Malley and Cast 2005).
directorates” such that the social and demographic characteristics of board members created common ties among members and boards of directors. Through “value-chain management” (value added to food as it proceeds downstream to the consumer), a market-driven pulling of goods takes place, through the agriculture and food chain (Gooch 2005: 5). Nevertheless, the main purpose of these consolidated relationships is to gain market power and efficiency, and to capture increasingly larger shares of the value-added activities performed off the farm (IFAP 2004; CNFU 2005; Heffernan 1999).

Some food manufacturers have used market power to lower their prices for producers’ goods (NFU 2000; Kneen 2002; Coffin et al. 1989) and Canadian consumers have paid more for food because of retail sector concentration (NFU 2000; Coffin 1987). Concentration in the food sector has largely been the result of the progressive elimination or takeover of smaller, local, regional, and national firms by transnational corporations (Lang and Heasman 2004: 139-173; Kneen 1990 and 2002). Corporate concentration can be found in most sectors of the Canadian food-and-agriculture system, especially in fruit and vegetable canning, frozen fruit and vegetable processing (Harrison and Rude 2004: 17).

In terms of the “upstream\textsuperscript{18} consolidation” of Canadian farms, in the form of consolidation of business activities such as fertilizer and machinery production and sales, Qualman and Tait (2004), Greider (2000) and Qualman (2001: 15-17) reveal that nearly every link in nearly every sector is dominated by between two and ten large multinational corporations. The large size and small numbers of these multinationals steadily accumulate market power. In terms of agricultural inputs, three companies in Canada retail and distribute the bulk of Canadian oil, gasoline and diesel fuel. Three fertilizer companies control 71 percent of Canada’s nitrogen-fertilizer-production capacity. Nine companies make and market almost all of the insecticides, fungicides and herbicides used in Canada. Worldwide, the top ten companies control 85 percent of the $45.4 billion pesticide market, with six firms controlling 63 percent of that market. Four companies (DuPont/Pioneer, Monsanto, Novartis, and Dow) control 69 percent of the North American seed-corn market. Three companies dominate the Canadian and North American farm machinery sector. Two railways, Canadian National (CN) and Canadian Pacific (CP), haul Western Canadian grain. Nine grain companies control grain collection in Canada, but market analysts speculate that mergers and

\textsuperscript{18} Terms such as upstream and downstream are used to denote processes or activities that occur before (upstream) and after (downstream) the point of reference.
takeovers will leave only four\(^\text{19}\). International Federation of Agricultural Producers (IFAP 2004: 1) predicts that eventually, on the agri-business side, three large clusters of transnational companies will dominate the entire sector: Cargill/Monsanto, Novartis/ADM/IBP and ConAgra.

What has become clear since the farm crisis of the 1980s is that the escalating concentration of economic power located upstream and downstream of the farm—rather than the economic and managerial inefficiency of the primary producer—determines contemporary profitability and viability (Heffernan 1999; Qualman and Tait 2004; CNFU 2000, 2005; Martz 2004). Farmers in the Western world have long been caught in a cost-price squeeze in which they have little control over input or output prices (Martinson and Campbell 1980; USDA, 1981; Youngberg and Buttel 1984; Buttel et al., 1986). Ultimately, the effect of corporate consolidation and the concentration of the agriculture industry mean farmers have little choice about whom they purchase their inputs from and to whom they sell their product(s). “In many cases the multinational firm that processes or handles the farmer’s product also owns, is in a joint venture with, or is strategically aligned with, the firm(s) selling the inputs. These clusters of firms can therefore dictate the terms of purchase for the farmer’s product while ensuring that the farmer’s inputs come from their seed and chemicals division... With fewer firms buying their product and supplying their inputs, farmers have less choice about what and how to produce. The consolidation of firms has led to an inequitable distribution of wealth in favour of large multinational firms” (IFAP 2004: 3). The concentration of market power by a few companies distorts pricing practices, restricts exports of certain commodities in order to influence market behaviour, hinders market innovation and has the potential to jeopardize international and regional food-and-farming security. King (2001a) argues that concentration adversely affects competition, production costs and efficiency through the accumulation of excessively broad control of intellectual property rights: all developments within the industry that are bound to eventually hinder market innovation and

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\(^\text{19}\) April 13, 1999 meeting of the Canada Grains Council, Agricore CEO Gordon Cummings predicted that American transnationals ConAgra, ADM and Cargill will survive “and if we do things right, one Canadian-owned [company will survive].” He predicted that the consolidation would occur within two to five years, following the conclusion of the next round of WTO talks (Dawson1999). In fact, the consolidation occurred the same year (1999) and created a new company named CNH Global. A United Business Media release states: “With strong global brands, CNH Global N.V. is a leader in the agricultural equipment, construction equipment and financial services industries and had combined 1998 revenues of approximately $12 billion. CNH is the number one manufacturer of agricultural tractors and combines in the world, the third largest maker of construction equipment and has one of the largest equipment finance companies in the world. CNH has operations in 16 countries and sells its products in 160 markets through a network of more than 10,000 dealers and distributors. CNH products are sold under the following brands: Case, Case IH, Fermec, Fiatallis, Fiat-Hitachi, Link-Belt, New Holland, O&K and Steyr” (United Business Media 1999).
affect the long-term viability of conglomerated firms, particularly firms that are strategically aligned or integrated.

For at least the past 40 years, the basis of farm policy has been to improve efficiency and expand production, in an effort to address farm-income problems as a result of inflation and the cost-price squeeze that has become endemic with farm enterprises (Easter 2005). Yet, AAFC (2004a: 17) states, “farmers can improve their income prospects by actively managing risks instead of reacting to them… [farmers] can promote income stability by improving production and management decisions.” According to Easter (2005: 11), Canadian primary producers have become highly efficient, even more so than most agri-sector “upstream” and “downstream” businesses. The problem farmers face relates to the “downstream” prices (by those who add value post-farmgate), and “upstream” costs (by those who supply farmers pre-farmgate), that diminish their profitability, and for which they have progressively less control. Agriculture’s annual productivity growth was 4.6 percent between 1984 and 1995, an otherwise tumultuous period in the history of agriculture that saw the demise of many thousands of farms.. As with the United States, Canada depends heavily on agricultural exports to help maintain a positive trade balance. As a result, many farmers feel obliged to pursue contradictory objectives: investing in environmental stewardship, while producing for the global marketplace, a marketplace driven largely by cost-efficiency considerations. The global marketplace implicitly encourages producers to externalize their costs (MacRae 1999: 186). However, one of the most conspicuous features of the global food-production system is the shrinking percentage farmers receive of the price of food they produce. A large number of corporate intermediaries, such as international traders, food processors, distributors and supermarkets are taking increasingly larger shares of the profit (Mander and Goldsmith 1996). Similar changes have occurred in Europe: in Germany, about 20 percent of the “food Euro” goes to the farmer, compared to 75 percent from food expenditures in the 1950s (Norberg-Hodge, et al. 2002: 68).

*Food Manufacturing and Processing*

One of the basic requirements for a competitive agri-food system is based on the theory of a level playing field in the marketplace. In other words, no single company or small number of companies dominates market price, thereby creating asymmetrical power relationships with other players. The tipping point occurs when four (C4), or less (C3), horizontally integrated companies become concentrated and control among them at least 40 percent of the market
One or more companies acquire a significant amount of control over all stages in the food and agriculture system. As discussed earlier, horizontal integration can occur through mergers, acquisitions, joint ventures or long-term agreements of either a formal or informal nature. The C4 and C3 measures historically have been accepted measures or indicators in anti-trust assessments for determining the potential of price-concentration in corporate mergers. Price-concentration is a concern if corporate concentration leads to unfair price increases and/or stifling of industrial innovation and investment from lack of competition. However, depending on a variety of factors such as degree of horizontal product differentiation (Beckert and Mazzarotto 2006), market size or competitive superiority (Newmark 2004), C4 is contested as a reliable measure of high seller concentration and potential for subsequent harm to consumers.

Vertical and horizontal integration and transnationalization are three increasingly common forms of structural changes taking place within the global food system. However, in the manufacturing and processing sector of the agri-food system, relationship marketing such as strategic clustering or partnering of food-industry corporations within food chains is a growing trend (Harris 2002; Sporleder 1999). “Relationship marketing is part of the developing ‘network paradigm’, which recognizes that global competition occurs increasingly between networks and firms...to be an effective competitor in the global economy requires one to be a trusted competitor in a network” (Morgan and Hunt 1994: 20). These structural changes are prevalent throughout much of the modern agri-food system (AAFC 2004b: 3), and are designed to meet the following goals: to expand product lines; to counter the purchasing clout presented by consolidation activities in the food-retailing sector; to lower transaction costs; to secure efficiency gains and lower procurement costs; to capture a larger share in a mature domestic market; to maintain or increase bargaining power with other stages in the supply chain; to ensure a market outlet downstream; to guarantee a consistent and high-quality source of raw materials; and, to improve the ability to compete domestically and internationally (O’Malley and Cast 2005; Harris 2002). The process of food-industry consolidation and the standardization of agriculture have fueled the desire for a greater degree of predictability and control over agricultural products, as distance, volume and processing between the points of production and consumption increase. In general, manufacturers embrace specialized production methods, more capital-intensive technology

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20 The economic literature in the mid-1980s indicated there was general agreement that if four firms had 40 percent of the market, that market was no longer competitive, a theory that, according to Heffernan (1999: 2), may be deemed somewhat arbitrary but still provides a useful economic benchmark.
and greater vertical coordination with agricultural producers and wholesalers (Harris 2002). According to Grier (2002: 2), this is testimony to both the degree of competition within food manufacturing and the challenge of passing along price increases to a stronger retailer-buying sector.

**Food Retailing, Wholesaling and Distribution**

A trend that has gained considerable ground in the past 20 years is the consolidation of the national and global retail market (TFPC 1996; Heffernan 1999; USDA 2000; Lang 2003; Lang and Heasman 2004: 160-166; Vorley 2004: 34-37). At the retail level, supermarkets have grown rapidly in both developed and developing countries. Worldwide, the top 30 supermarket chains now control almost one third of all grocery sales. At the national level, the five biggest retailers control between 30 and 96 percent of food retailing in the EU, Canada and the U.S. Retailers were originally driven to consolidate because of dramatic, demographic changes that led to increased spending on prepared foods and spending on meals away from home (Kaufman, 2000). According to the CNFU (2000), Harris (2002) and Davis, et al. (2004), supermarkets’ domination of the market gives them significant leverage over production, distribution and trade, including direct involvement with suppliers in developing countries.

Most supermarkets work with a small number of suppliers—those that possess the resources to meet the stores’ quality guidelines and delivery schedules. Retailers that possess the purchasing power to buy higher volumes also have the bargaining power to negotiate lower wholesale and producer prices, effectively becoming their own brokers. Bypassing the wholesaler altogether, larger retailers internalize their wholesaling activities by establishing a system of self-distribution, arranging directly with manufacturers and producers for distribution to warehouses on a just-in-time delivery basis. Thus, large retailers control or heavily influence an increasingly greater portion of the “upstream” food system. As a result, merchant distributors, such as wholesalers, brokers and some processors, find their customer base shrinking, compelling them to engage directly in retail acquisitions. In addition, exclusivity in the food-manufacturer and grocery trade as a marketing-procurement practice—establishing preferential supplier-distributor relationships—has been occurring for 25 years, leading to further strategic alliances among firms (Grier 2001).
In the current food-production market, at least half of major Canadian manufacturers are involved in some form of exclusivity arrangement with Canadian distributors and suppliers. A number of reasons behind these arrangements relate chiefly to a growing sophistication about consumption habits. Increasingly, consumer demands have moved toward fresh foods, overtly nutritious foods and convenience-oriented products. Meanwhile, national brand strength is diminishing and private-label21 acceptance among consumers is growing. Food retailers have grown savvier about predicting successful sales and profitability. As well, manufacturers are likely willing to accept lower margins in exchange for securing exclusive, sole-supplier business with retailers because such a relationship reduces transaction costs, benefiting both retailers and manufacturers. The role of limited-line retailers, box stores, mass merchants and wholesale-club formats has grown significantly in importance as a means of moving traditional grocery lines or categories toward consumers, thus gaining a bigger market share. Large distributors, such as big-box warehouse or discount-club stores, superstores, cash-and-carry organizations and market-segment specialists further complicate and possibly promote concentration in the retail sector, as each vies for an advantageous position in the market, challenging traditional supermarket formats and their relationships with their consumers (Grier 2001).

Large distributors play a powerful role in the food-production market, by shaping buyer or consumer expectations in the form of price determination, quantity and availability (AAFC 1999). For example, Wal-Mart was a $5-billion-a-year competitor in the Canadian grocery retail industry by 2006, and is expected to gain $1 billion in grocery business each year. Wal-Mart did approximately $8 billion worth of business, with more than 6,000 suppliers in Canada in 2004 (Cox 2005). Wal-Mart, with its introduction of discount Supercentre stores in Canada over the past few years is one such example of a drastically changing food retail landscape. In contrast to the United States, Canada already had a well-developed discount grocery sector (Loblaws and its 17 different banner stores (Lewis 2005)) and with significant market share, but has been reorganizing and reformatting its entire business infrastructure and processes to compete effectively with Wal-Mart (Strauss 2006). According to JustFoodERP (2008), competing effectively is about focusing on supply chain efficiency, quality control and monitoring vendor performance. Any supply chain vendor, such as processors and distributors, working with mass-retailers like Wal-Mart or Loblaws also had

21 With a private label, a retailer has primary access to its own grocery shelves, strengthening its role in the agri-food supply chain. It allows the retailer to perform functions of the processor to whom it then outsourced, consequently capturing more the processor’s category share. Retailer private-label products can be distributed globally as well (AAFC 1999).
to adopt highly efficient but costly business processes. Additionally, upstream vendors are becoming increasingly dependent on the volume and resource demands of fewer, larger customers like Wal-Mart or Loblaws for a significant share of revenue. However, dependency and customer consolidation is akin to placing all your eggs in one basket. According to Olijnyk (2006) market consolidation has had the affect of forcing other traditional supermarket chains and independents to lower their food prices as well. Although entrance of a competitive mass-merchandiser can effectively mute negative price impacts of food cost for consumers through local competition – at least in the short term – it forces a standard of efficiency that can only be adopted by those with the capacity to do so. Until at least 2005 Canadian grocers still held the greater market share of consumer spending on food, with only 15 percent of food sales taking place in general merchandise stores (Statistics Canada 2006d).

The grocery-store industry in Canada has become one of the most concentrated and least competitive industries both regionally and nationally. This reflects both an expansion and consolidation of the global supermarket sector – especially through the late 1990’s amidst numerous mergers and acquisitions to counter the “Wal-Mart” threat to their market share – where they have become “global sourcing companies” (Brown and Sander 2007: 1). Tickell (2004) states that supermarket sector analysts foresee future global markets in which the sale of food is controlled by no more than five global firms.

In Canada, the growing concentration of market share in the food-retailing marketplace is increasingly evident. Food retailing in Canada is controlled by five companies: Weston/Loblaws/Westfair (Superstore, Loblaws, Loeb, Provigo, IGA, SuperValu, Lucky Dollar, Extra Foods, The Real Canadian Wholesale Club, Your Independent Grocer, No Frills, Valu-Mart, etc.); Safeway; Metro-Richelieu; Empire/Sobeys; and, Pattison/Overwaitea. The relatively large number of retailers is deceiving, because two or three companies dominate most regions: Pattison/Overwaitea and Safeway market most of the food in British Columbia; Weston/Loblaws/Westfair and Safeway dominate food retailing on the Prairies; The Ontario market is dominated by Weston/Loblaws/Westfair, Sobeys, Metro-Richeleu, and A&P; Metro-Richelieu, Empire/Sobeys, and Weston/Loblaws/Westfair (Provigo) divide the Quebec market; And two companies—Empire/Sobeys and Weston/Loblaws/Westfair (Atlantic SaveEasy, Atlantic Superstore, Dominion, IGA)—share the Maritimes. Gervais and Larue (2005), in a study prepared for the Canadian Agri-Food Policy Institute, concluded:
“The high degree of concentration at the retail, food processing and farm input manufacturing levels is often identified as the most important contributing factors to explain increases in retail to farm [price] spreads…Two or three retailers get most of the Canadian consumers’ dollars in any given region.” At many links in the food chain, market power is much closer to monopoly levels than it is to levels found in competitive markets. According to Winson (1992): “The small number of very large corporations that dominate each link in the agri-food production chain means that these firms could exert significantly more upward pressure on their selling prices and profits and more downward pressure on their buying prices than would be the case in truly competitive markets.

However, Winson (ibid.) may not necessarily hold in the past decade for reasons noted above, specifically: 1) competing effectively now means focusing on supply chain efficiency, quality control and monitoring vendor performance (JustFoodERP 2008); 2) upstream vendors increasingly depend on the volume and resource demands of fewer, larger mass retail customers like Wal-Mart for a significant share of revenue; and market consolidation led by mass retailers has had the affect of forcing other traditional supermarket chains and independents to lower their food prices (Olijnyk 2006). Competition has, at the mass merchandizing level through to the smaller scale independent, had the effect of lowering prices at the retail level. In a globalized food system, the downward pressure on prices is on system efficiencies, externalities, and on the producer, where ever they may be.

Retailers recognize that the food-distribution sector is playing an increasingly important role in the food system and is generating substantial economic activity. To be successful, grocers face significant challenges from all food-retail sectors, requiring them to be extremely innovative and flexible in terms of their product mix, marketing strategy, supplier relations and customer service (Thomas 2005; Bisetty 2005). However, not to be out-maneuvered by supermarkets and independent grocers, Wal-Mart is introducing their own brand small-format stores, known as ”Marketside”, in the United States in order to enter urban areas where their larger format supercentres cannot be accommodated or are vigorously opposed. Having had time to experiment with merchandising organics and figuring out which grocery strategies work to its advantage, it will be aggressively marketed (McTaggart 2008). Whether these smaller format, neighbourhood stores, make their way to Canada remains to be seen.
Emerging Food System Vulnerabilities

The following section looks at four food-system vulnerabilities—peak oil, climate change, biosecurity and the pressures on agricultural land in B.C. specifically the Agricultural Land Reserve in the Lower Mainland. Each of these challenges posed particular relevance to the B.C. context in terms of its potential for self-reliance, and to the entire social, ecological and economic foundations upon which our global and local food systems rest. Each of the vulnerabilities has local and global implications; the implications foretell additional challenges and justify greater balance within the local-global food-system dependency scenario. From a systems perspective, the B.C. food-and-agriculture industry is composed of subsystems, which are also part of a larger set of regional and global systems. As such, they are open systems\(^22\) nested within each another and are therefore inseparable from each other.

I specifically chose these vulnerabilities above others because they reflected the greatest magnitude for social, ecological and economic transformation, and also because of their immediacy and proximity. I researched these identified vulnerabilities through the available peer-reviewed and grey literature, government and industry documents, and, as necessary, through direct communication with relevant industry and government informants. I outlined the impact for each of the vulnerabilities and focused on the relevancy of each problem in relation to B.C.’s agriculture and food systems.

\textit{Loss of Productive ALR Land}

B.C. has the third largest area of urban land, represented by the Vancouver Census Metropolitan Area (CMA)\(^23\) with almost 4,100 km\(^2\) (Hofmann, et al. 2005, 2001).\(^24\) The Vancouver CMA will represent about 85 percent of the population growth between now and

\(^22\) Ecosystems smaller than the biosphere are essentially open systems with respect to matter as well as energy. All environmental systems are open systems with throughputs of matter and energy.

\(^23\) According to Statistics Canada (1991), the Vancouver C.M.A. includes the following: \textbf{Cities}: Burnaby, Coquitlam, Langley, New Westminster, North Vancouver, Port Coquitlam, Port Moody, Richmond, Vancouver, White Rock, Surrey; \textbf{Municipal Districts}: Delta, Langley (Township), Maple Ridge, North Vancouver, Pitt Meadows, West Vancouver; \textbf{Island Municipality}: Bowen Island; \textbf{Villages}: Anmore, Belcarra, Lions Bay; \textbf{Reserves}: Barnston Island 3, Burrard Inlet 3, Capilano 5, Coquitlam1, Coquitlam 2, Katzie 1, Katzie 2, Langley 5, Matsqui 4, McMillian Island 1, Mission 1, Musqueam 2, Musqueam 4, Semiahmoo, Seymour Creek 2, Whonnock 1.

\(^24\) Metropolitan regions influence land-use patterns up to 100 kilometres beyond their formal boundaries (Houston 1993; Rambeau and Todd 2000; Environment Canada 1996). Gravel pits and recreational areas, for example, are often located on agricultural land adjacent to urban areas, and contribute to urban and rural build-up. Apparently, these built-up areas were the cause of 57 percent of the total area of dependable land converted to non-agricultural uses, with another 29 percent (11,700 km\(^2\)) lost to transportation and utility uses (Hofmann, et al. 2005). During the same period, a further eight percent of dependable land was lost to protected areas and campgrounds. Dependable agricultural land lost to urbanization, and the rural built-up uses are considered permanent losses of land (ibid. 2005).
2026, and see the Lower Mainland population grow to at least 3.4 million people. The Lower Mainland is also expected to absorb the bulk of $91.6 billion in residential and non-residential development, including a majority of 1.1 million new residential units (BC Stats 2006; Sashaw 2006). The loss of productive agricultural land in B.C.’s Agricultural Land Reserve (ALR) to urban encroachment and other development pressures demonstrates the most significant problem associated with urban development and an unsustainable food system. The Fraser Valley Regional District (FVRD) and Metro Vancouver are endowed with some of the richest and most productive farmland in B.C. and Canada. The rapid growth of Vancouver’s urban residential and non-residential development in the first decades of the 20th century resulted in Vancouver’s incongruous expansion pattern (Garrish 2002).

For three decades, the province witnessed a steady and substantial decline in available, agriculturally productive land. Between 1971 and 2001, economic and population-growth patterns in B.C. manifested a 122 percent increase in land area for additional residential and non-residential development. In 2001, a new B.C. provincial government gave the ALC a stronger mandate to improve overall compliance within the Agricultural Land Reserve through partnerships with local governments and other agencies. In 2002, six regional panels were created to increase the Commission’s regional presence by appointing three commissioners for each region. These commissioners were expected to represent the provincial interest, with an increased sensitivity to regional and community land-use desires. Subsequently, under voluntary agreements regarding the power to make decisions on land use and subdivision within the ALR, the Commission’s authority to decide subdivision and non-farm-use applications was delegated to local governments, with the Commission monitoring local government decisions. Regulatory changes in Bill 21, and subsequent changes made through the 2004 Agricultural Land Commission Amendment Act streamlined procedures, expanding the range of permitted uses in the ALR.

According to Baxter (1998), all of the Lower Mainland’s expected growth over the next 25 years can be accommodated within the already urbanized portion of the region, without making the suburbs any denser than the city of Vancouver. However, this may no longer be

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25 The Metro Vancouver and FVRD together comprise the Lower Mainland of British Columbia.
26 B.C.’s New Era Commitment, see: [www.gov.bc.ca/prem/popl/service_plans/srv_pln/prem/goals.htm](http://www.gov.bc.ca/prem/popl/service_plans/srv_pln/prem/goals.htm)
27 Bill 21 awarded Cabinet greater authority to make regulations concerning the use of agricultural land, including permissible non-farm uses of agricultural land (WCEL 2002).
the case because Vancouver’s present landscape features large urbanized land areas of detached housing currently unavailable for urban redevelopment—a key resource in the effort to increase municipal housing density. Community redevelopment of already urbanized or developed areas means that the current residents who actually oppose such efforts would more directly experience the costs and benefits of densification. As it now stands, there are poor or non-existent linkages between ALR preservation and local municipal bylaws on urban land, such as height limitations, and a misplaced fear of mixed zoning. Poor linkages are the result of uninformed decision-making that does not explicitly weigh the full costs and benefits of land-use change. For example, urban development can significantly undermine the viability of the local agri-food industry through encroachment onto highly productive farmland (Houston 1993; Rambeau and Todd 2000; Pirn and Ornoy 2002). Notwithstanding ALC’s new mandate and structure, the absence of a clear and enforceable mechanism or set of mechanisms for farmland protection will subject agricultural land to growing real-estate speculation and create opportunities for urban-rural conflicts that progressively limit or hinder opportunities for viable farming.

*Climate Change as a Food-System Vulnerability*

The unpredictable nature of global warming limits the ability to predict how B.C. will be affected by climate change, especially at the regional and local scales. During the past 150 years, the Earth’s climate has grown measurably warmer owing to anthropocentric (human-induced) greenhouse gases (GHGs). GHGs are atmospheric gases that trap solar energy, warming the atmosphere and the surface of the Earth. These gases include carbon dioxide (CO$_2$), methane (CH$_4$), nitrous oxide (N$_2$O) and other trace compounds. After remaining stable for 10,000 years at about 280 parts per million, global CO$_2$ levels are approximately 34 percent higher today than in pre-industrial times (B.C. MVLAP 2004a; FAO/IFA 2001). The IPCC (2007) predicted that the Earth’s average temperature would rise by 1.4 °C to 5.2 °C within this century. In January 2005, a United Kingdom (U.K.)-based group from Oxford University predicted a temperature rise of 1.9 °C to 11.5 °C when CO$_2$ levels in the atmosphere—currently measured at 379 parts per million by volume by the year 2100 (ppm—double the pre-industrial level of 280 ppm) (Ho 2005).

Between 1895 and 1995, the average annual temperature increased by 0.6 °C on the B.C. coast, 1.1 °C in its interior and 1.7 °C in northern areas of the province. The Lower Mainland
has experienced a three-week increase in frost-free days between 1955 and 1995, with the growing season beginning progressively earlier. Average coastal sea-surface temperatures are 0.9 °C to 1.8 °C higher (B.C. MWLAP 2004b). Average annual temperatures are expected to increase between 2°C to 7°C, accompanied by more winter precipitation. Precipitation is expected to increase in southern B.C. by six per cent each decade (Government of Canada 2005).

In an expectedly warmer B.C. climate, many crops that adapted to day lengths associated with the specific growing seasons of middle and lower latitudes may respond poorly to the longer days of high-latitude summers (Van Caeseele 2002). Significant flooding of the Delta region of B.C., a low-lying but major agricultural region of the Lower Mainland, is expected, with a 3.0-metre rise in sea level (NRC 2006). A 1-metre rise in sea level would inundate more than 4600 ha of farmland in the Metro Vancouver region of the Lower Mainland (Yin 2001). This region of the Lower Mainland is protected by 127 km of dykes that were not built to accommodate sea-level rise (Government of Canada 2008: 341). Sea-level rise can result in saltwater intrusion into freshwater aquifers, affecting the quality and quantity of irrigation water supplies (Allen 2004). Furthermore, agricultural pests, pathogens and weeds—usually associated with barriers to successful farming—tend to flourish in a warmer climate. Warmer summer and winter temperatures, a longer growing season and changing predominant wind patterns can affect the range of pest species, while extreme weather events provide a greater opportunity for infestation. Many weed species would benefit from an enriched carbon dioxide environment (Epstein 2000; Government of Canada 2008; Shriner and Street 2000).

In all areas of the province, longer growing seasons and milder winters were expected to increase the range of crop types suitable for economic production. Increasing requirements for irrigation were predicted for the south coast...with possible water shortages caused by reduced precipitation, limited storage capacity and competition from the burgeoning urban populations...It is likely that crop production areas will adjust to accommodate a changing climate and that some producers will be able to take advantage of new opportunities to grow different, and perhaps more valuable, crops. Growing regions for annual crops (i.e. horticultural crops) are limited by length of the growing season and heat units. In all areas of B.C., the possibility of increased summer drought, coupled with decreasing water resources,
will provide challenges for water supply to support irrigation (Government of Canada 2008: 348-350).

Our dependency on the food production capacity and cheap horticultural products from developing countries is as risk. According to Fischer, et al. (2002) climate change by the 2080s could result in a five-to-eight-percent expansion of arid land that has a growing period of less than 120 days of the growing season, comprising a land-area equivalent between 58 and 92 million hectares, and adversely affecting nearly one billion people in developing countries. Based on climate-model projections, developing countries will increasingly depend on cereal imports of up to 600 million tonnes. Loss of forest and cropland worldwide, especially in developing countries that currently hold comparative advantage for agriculture and food exports, may compromise the North’s sense of food security, as developing nation-states struggle to feed growing populations. In contrast, developed regions could experience an increase in the agriculturally productivity potential of local land, notably in North America (40 percent), Northern Europe (16 percent), East Asia & Japan (10 percent) and the Former Soviet Union (64 percent), where cereal production increases of 6 to 9 percent are predicted (ibid. 2002). However, the IPCC suggests that increases in average annual temperature of more than a few degrees Celsius could actually result in a decrease in potential crop yields in the mid-latitudes.

Peak Oil as a Food-System Vulnerability

Peak oil theory predicts a significant rise in oil prices as oil production reaches peak field output capacity. Scientists and planners predict that a painful reorganization of the global economy will follow the peak (Shore 2007; Dunham 2007). The agricultural industry’s reliance on fossil fuels for irrigation, processing, harvesting, refrigeration, transport and the production of fertilizer means that as the world’s oil supply wanes and fuel prices spike. Modern food systems of all developed countries and, increasingly, those in developing countries, depend on petroleum energy to replace human labour in food production and preparation, while boosting yields and comparatively increasing the safety of food. For those economic sectors heavily dependent on natural capital, such as agriculture, access to oil throughout the entire pre- to post-consumption food system essentially determines labour productivity and, therefore, profitability and farm viability. The world food system is entirely dependent on stocks of petroleum energy in the form of fertilizers, pesticides, irrigation and
machinery. However, increasing evidence and support from the world’s financial and energy-industry sectors suggest that global oil demand will exceed production within five to ten years, when the “peak oil” scenario will be realized (Ball 2004; Vidal 2005; Heinberg 2003).

Peak oil is an event predicated on an oil-field depletion theory developed in 1956 by M. King Hubbert28. From a state of peak oil onward, international competition for the remaining half of the world’s oil resources will be progressively contentious—politically and economically. According to experts in the energy industry, oil production is reaching a plateau, or declining in 33 of 48 major oil-producing countries, as well as in 32 of the smaller producing countries, including six of the 11 OPEC29 countries. Outlook for Energy: 2030 View, published by ExxonMobil Corporation (2004), forecasts that oil production outside OPEC, the cartel that controls three-quarters of the world’s energy reserves, will reach its peak in just five years. By 2010, OPEC States are expected to retain a 50 percent share of the global oil business, with the potential to stimulate significant increases in oil prices and possibly keep demand in check for up to ten years30 (Campbell and Laherrère 1998). According to Ball (2004) and Klare (2004; 2005), the incremental value of small oil-field discoveries with a positive rate of return means little compared to the expected growth in demand for oil over the coming decades. Of course, energy experts are at odds over how long it will take peak oil to occur (IEA 2004, Morse 2005). Nonetheless, most energy insiders accept that peak oil will occur: precisely when this shortage will take place is debatable31 32.

28 M. King Hubbert was a U.S. geologist working for the Shell Corporation in the 1950s. His theory is based on a mathematical model of petroleum extraction which predicted that the total amount of oil extracted over time would follow a logistic curve, where the rate of extraction at any given time would then be given by the rate of change of the logistic, bell-shaped curve, known as the Hubbert Curve or Hubbert’s Peak (Hubbert 1949, ASPO 2005, Campbell and Laherrère 1998). See Laherrère (2000) for limitations of the Hubbert Curve.

29 The Organization of the Petroleum Exporting Countries (OPEC) is a permanent, intergovernmental Organization, created at the Baghdad Conference on September 10–14, 1960, by Iran, Iraq, Kuwait, Saudi Arabia and Venezuela. The five Founding Members were later joined by eight other Members: Qatar (1961); Indonesia (1962); Socialist Peoples Libyan Arab Jamahiriya (1962); United Arab Emirates (1967); Algeria (1969); Nigeria (1971); Ecuador (1973–1992) and Gabon (1975–1994). OPEC’s objective is to coordinate and unify petroleum policies among Member Countries (OPEC 2005).

30 Demand fell more than 10% after the 1979 shock and took seventeen years to recover (Campbell and Laherrère 1998).

31 Another important point to consider in a diminishing energy-supply scenario is the fact that peak-oil theory excludes unconventional sources of petroleum energy for a variety of reasons. First, the contribution of unconventional energy sources contribution is comparatively insignificant to overall, immediate demand. Second, alternative sources require many technological obstacles to be overcome. And finally, the mining and processing of such sources places a high degree of demand on large, natural resources. Non-conventional oil sands in Canada, the Former Soviet Union (FSU) and Venezuela, as well as oil shale in the western United States, could contribute 1 to 1.5 million barrels per day, providing the area’s already announced expansion plans can be realized (Zittel and Schindler 2004). Notwithstanding the existence of numerous obstacles, likely only 700 to 900 billion barrels can be produced from unconventional reserves over the next 60 years (Campbell and Laherrère 1998; Vidal 2005). Substitutes for crude oil might also exact a high environmental price, one that may be too high within the context of global climate change, land use and fresh-water constraints.
Today, modern transportation and food-production systems have grown entirely reliant on available petroleum-energy resources that are increasingly costly, as they become more difficult to extract and demand, more difficult to meet (ASPO 2005; Murray 2005; Campbell 2004; Aleklett 2004; Zittel and Schindler 2004; SUSTAIN 2001; Gever, et al. 1991). Modern, mechanized agriculture, as well as the post farm-gate food system, is altogether dependent on cheap oil, so a contraction of petroleum-energy supplies will likely result in reduced food production and higher prices for food. In the U.S., approximately 14 percent of food-system-energy consumption goes to food transportation, 16 percent to food processing, 7 percent to packaging, 4 percent to food retailing, 7 percent to restaurants and caterers and 32 percent to home refrigeration and preparation. In Canada, the food-system energy-consumption figures are not similarly disaggregated: approximately 18 percent of consumption goes to food and beverage processing, 35 percent for home, restaurant and hotel preparation of food and about 46 percent at farm level CAEEDAC (2000: 41).

Although Canada’s agricultural sector is a high consumer of petroleum energy per farmer in order to achieve its higher labour productivity, the sector demonstrates relatively low energy consumption per hectare of arable land. The availability of natural capital (oil, land, etc.) and that of human-made technological capital (including embodied energy33 transformed from oil) affects a society’s biophysical output per hour of labour. The availability of natural capital then becomes the dominant factor in determining labour productivity in economic sectors heavily dependent on natural processes, such as agriculture (Pimentel and Giampietro 1979; 1989). Under a post-peak-oil scenario, modern agriculture-and-food systems may face a continuous decline in the energy output/input ratio, as energy returned on energy invested diminishes, even as petroleum-energy inputs persist in an attempt to maintain high labour productivity.

The cost of transportation is another key factor to consider in today’s agricultural production process. Trucking, for instance, accounts for the majority of food transport and is nearly ten

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33 Embodied energy (EE) is the quantity of energy is necessary for the fabrication of a specific material. When measuring embodied energy, all energy inputs, from raw material extraction, to transport, manufacturing, assembly, installation and others are considered. As a concept EE seeks to measure the true energy cost of an item (CSBJSU 2006).
times more energy-intensive than moving goods by rail or barge. Nonetheless, food miles\textsuperscript{34} and food swapping\textsuperscript{35} contribute between 2,500 and 4,000 kilometers for every food item consumed in the global food system (SUSTAIN 1999; Pretty, et al., 2005; Halweil 2002). Processed foods account for as much as three quarters of total world-food sales, and require a disproportionate amount of energy to produce, package, transport, store and prepare for consumption (Ho 2005). For example, 0.45 kilograms of frozen fruits or vegetables require 3.5 MJ of energy for processing and 2.4 MJ for packaging, plus energy for refrigeration during transport, in-store storage, at-home storage, plus preparation and waste handling (Murray 2005). Ho (2005) breaks down the energy expenditure for industrial food production: 12.5 energy units are used for every energy unit of food transported per 1,000 air-miles; up to 1,000 energy units are used for every energy unit of processed food; and, the distribution of food accounts for more than 20 percent of all transport within the Canada, not including energy used for food importing and exporting. In Canada, the food-system energy amounts to approximately 11.5 percent (including machines and buildings) of all energy consumed nationally (CAEEDAC 2000: 40). In 1996, the last date for which figures are available, the entire food system, pre- and post-farmgate, consumed 813 PJ\textsuperscript{36}. However for every Canadian, the average, per-capita daily consumption of food-system energy to maintain required nutrition levels worked out to only 66 MJ\textsuperscript{37} (CAEEDAC 2000: 41). In other words, the current globalized food and agriculture system is dependent on massive amounts of cheap energy to function. Access to this energy is, under peak oil theory, highly questionable.

### Biosecurity and Food System Vulnerabilities

While modernized food-supply systems have contributed to advances in food safety, the drive for economic efficiency has created a structure with inherent vulnerabilities affecting food safety and public health. The modern food-supply system and its dependency on distant markets exposes a global system to accidental, purposeful or structural\textsuperscript{38}

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\textsuperscript{34} The term “Food Miles” was first coined about ten years ago in a report by the SAFE Alliance, now Sustain, which highlighted concerns over the negative environmental and socio-economic impacts of increasing transport of food. Food miles are simply the distances traveled by foodstuffs from farm gate to consumer (Smith, et al. 2005).

\textsuperscript{35} Importing and exporting very similar food products with the appearance that it is trading simply for the sake of trading with seemingly no net gain.

\textsuperscript{36} 1PJ = 10²¹ Joules (petajoules).

\textsuperscript{37} 1MJ = 10⁶ Joules (1 million Joules or one megajoule), which is equivalent to about 0.28 kilowatt-hours, 239 kcal, 0.37 Hp-hour; 10⁻⁵ x 2.38 ton oil equivalent (TOE), or approximately 948 Btu.

\textsuperscript{38} This refers to the centralized food-supply system’s organization of capital, regulation and enforcement, and operational circumstances or arrangements. In other words, structural is the framework within which systemic conditions operate.
contamination at many points along protracted production, processing and consumption processes (FAO 2001, 1997: 30; Nguz 2004; Vogt 2001: 2; Fusaro 2004; George 2005).

The modernized food-and-agriculture system has inherent weaknesses because it is structurally and operationally legitimized to produce food at least cost. The efforts to realize economic efficiency, while attempting to add value, externalize costs and beget a food-supply system vulnerable to food contamination (Nestle 2003). Konefal, et al. (2005) contend that with the proliferation of private governance and standards many significant decisions regarding public health risks, food safety, and environmental impacts are increasingly taking place in the backstage of the global agro-food system. They argue that globalization has given rise to an undemocratic, “black-boxed” food procurement processes (i.e. one lacking public oversight) dominated by large supermarkets. As a result transnational supermarket chains increasingly control what food is grown where, how, and by whom.

The mitigation of emergent hazards from this cheap-food system can sometimes reveal endemic food-safety weaknesses, such as instances involving proposed solutions that serve to introduce opportunities for renewed perceptions of risk, such as food irradiation. Rather than address the root cause(s) of a food safety issue, simplified and reductionist solutions, based on additional technology and specialization, are sought to address symptoms relatively cheaply as opposed to implementing systemic change (Princeton 2006).

The common occurrence of food contamination, for example, highlights the frequency and danger of unnecessary risks being introduced into the food system. Contaminants introduced into just one large-scale food-processing facility can significantly damage, in short order, millions of kilograms of food, and distribute it thousands of kilometers for consumption by a significant number of people (Blake 2003). Most people act on the “unspoken contract” among food producers, government regulators and the public to assure that food is safe (Fox 1997). Because it lacks the resilience that comes with complexity,

39 For example, irradiation or “cold pasteurization” of produce to eliminate disease-causing microorganisms introduced by economically efficient production, processing or preparation methods.

40 Reductionism is a theory that describes a number of related, contentious theories that hold, all complex systems can be completely understood in terms of their components, or that the nature of complex things can always be reduced to simpler or more fundamental things (Princeton 2006).

41 For example, viruses and species of bacteria that can cause food-related illnesses. The most common causes of food-borne illnesses can be attributed to bacteria such as *Campylobacter*, *Salmonella*, *Shigella* and *Escherichia coli*.

42 In 1994, a salmonella outbreak in a single plant affected more than 224,000 people across 41 U.S. states from contaminated ice cream (Blake 2003).
redundancy and agroecosystem integrity, reductionist science has fostered an increasingly and inherently vulnerable agriculture and food-delivery system, subject to a variety of perturbations throughout the food-production-to-consumption process. These vulnerabilities manifest the enormous shift in the dominant agriculture and food industries toward not just control of the economic facility, but the simplification and manipulation of complex biochemical foundations and processes.

Agro-biodiversity

Plant genetic diversity provides stability for farming systems by compensating yield variability through cropping and intra-cropping of other crops or varieties. Genetic characteristics are valued for the benefits they confer, such as resistance to diseases, pests and drought. In addition, genes provide the ability of plants to adapt to environmental stresses and bestow qualities and attributes such as taste, colour and texture that are appreciated by consumers. Important cultural factors influence and, in turn, are influenced by genetic characteristics of plants. Yet, industrialized agriculture represents one of the greatest factors contributing to the loss of crop and livestock genetic diversity: “[c]rop and animal diversity…is vital for the maintenance and improvement of agriculture…agricultural biodiversity is not just raw material for industrial agriculture; it is the very key to food security and sustainable agriculture…Without this diversity, options for long-term sustainability and agricultural self-reliance are lost” (Shand 1996: 163). In descending order of impact, the main causes for genetic erosion are: replacement of local varieties, land clearing, overexploitation of species, population pressure, environmental degradation, overgrazing, legislation/policy, changing agricultural systems, pests/weeds/diseases and civil strife (FAO 1997). Globally, the loss of genetic diversity is demonstrated by increasing specialization: just 30 crops provide the world with about 95 percent of plant-derived dietary energy. Of these wheat, rice and maize supply more than 50 percent of the energy intake (McNeely and Wachtel 1988), and sorghum, millet, potatoes, sweet potatoes, soybean and sugar (cane/beet) supply another 25 percent (FAO 1991). However, at the sub-regional level, a

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43 Agro-biodiversity includes aquaculture, forestry, soil, and pollinators. However, only domestic animals and plants are briefly covered in this paper just to make a connection between biodiversity loss and biosecurity.

44 For example poor genetic diversity and progress of genetic erosion can be drawn from; the destruction of 15 million hectares of the winter wheat cultivar “Bezostaya” in 1972, in the Soviet Union during a severe winter (Fischbeck 1981)

45 “Genetic vulnerability is the condition that results when a widely planted crop is uniformly susceptible to a pest, pathogen or environmental hazard as a result of its genetic constitution, thereby creating a potential for widespread crop losses…” (FAO 1997: 30).

46 Winson (1992) estimates that 30,000 higher plants (i.e., flowering and cone-bearing plants) are edible, of which nearly 7,000 have been cultivated or harvested for food at some point in history.
greater number of crops, cultivated and uncultivated, emerge as significant\(^{47}\) (Prescott-Allen and Prescott-Allen 1990), and the diversity within species is often immense (Ceccarelli, et al. 1992). Gale (2000: 285) argues that the current ecosystem decline is a consequence of the over-extension of the principle of specialization; “when the specialization principle is applied wholeheartedly… to speed up the delivery of desired commercial products it leads to ecosystem simplification, loss of integrity and stress.”

Bio--terrorism

The use of pathogenic organisms and biotoxins as “bioweapons” to contaminate and destroy food-system components—and to inflict physical, psychological and economic harm—is not a new concept.\(^{48}\) However, an argument could be made that the modern food-and-agriculture supply system has, in the name of economic efficiency, specialization and free trade, done more to jeopardize population health within the course of normal operations than any substantiated threat of bioterrorism\(^{49}\) in recent years. Food-borne illness cases each year in North America number at least 77 million, of which about 400,000 people required hospitalization, causing 5,000 deaths, and at least $36 billion in medical-care costs (IFT 2004: 1). Also, the cost of recovering from serious animal disease outbreaks can be higher than just the cost of a crop or livestock and its disposal.\(^{50}\)

Notwithstanding the potential damage from conventional chemical and biological contaminants in food, the exotic nature of biotechnology is earning increased public attention. The potential role of biotechnology to develop bioterrorism weapons has become a concern to countries of North America and Europe, because scientific, technical and cost barriers are declining to make the information more accessible and user-friendly.

Biotechnology can be used to create antibiotic-resistant bacteria, synthesize plant and soil toxins and microbes, or create herbicide resistant or infertile plants for nefarious purposes (Nestle 2003: 265; Fee and Brown 2001; Henderson 2001). Leahy (2006) observes that a

\(^{47}\) For example, in various sub-regions, dietary staples for millions of the world’s poorer people could include: cassava, beans (Phaseolus), plantain (Musa), groundnut, pigeon pea, lentils, cowpea and yams, millet, sorghum, potatoes, soybean, sugar cane, sweet potatoes (Persley 1990).

\(^{48}\) CNS (2006) documents numerous incidences of pathogen or toxin use for agro-terrorism purposes between 1914 and 2000. CNS (2006) provides a detailed account of confirmed and alleged incidents of bioterrorism, as well as a take on the current situation of global chemical and biological weapons (CBW) development by individual countries.

\(^{49}\) The deliberate use of chemical and biological weapons to destroy pre-harvest crops or livestock (CNS 2006). Agroterrorism involves the act of any person knowingly or maliciously using biological agents as weapons against the agricultural industry and the food supply (Cain 2001).

\(^{50}\) For example, the cost of the outbreak of Foot and Mouth Disease (FMD) in Great Britain included the value of lost trade and related (secondary and tertiary) industries is estimated in the billions of dollars, however, “[n]o one can come up with a specific dollar cost for Foot and Mouth Disease outbreak.
significant proportion of biotechnology research and development occurs surreptitiously, denying the public assurances that development is not for nefarious purposes. Kleiner (2006) suggests the next generation of bioterrorism, such as RNA interference, synthetic biology and bio-regulators is imminent and in need of scrutiny.

In 2004, the FAO International Treaty on Plant Genetic Resources for Food and Agriculture went into effect, with the objective of global co-operation to ensure the conservation and sustainable use of genetic resources for sustainable agriculture and food security. However, Canada, the U.S. and Argentina have not ratified the Cartagena Protocol on Biosafety, even though together these countries produce 90 percent of the world’s genetically engineered crops. Nestle (ibid.: 28) suggests that a “[c]entralized food production has created favourable conditions for dissemination of bacteria, protoza, and viruses…it should be evident that people involved with every stage of food production, from farm to fork, must take responsibility for food security.” The FAO (2004a: 5) rationalizes that “[a]s plausible risks need to be considered with the globalization of the world’s food supply…The opportunities for accidental or intentional contamination of food are too numerous to ever be able to completely control/prevent such incidents.”

Traceability

Peterson (2003: 1) declares that “[w]e are at a critical point in the evolution of produce traceability…For a truly global industry, global dialogue is essential for solutions which ensure the ability for product to move across borders and through the supply chain without obstruction.” At present, information technology for trace-back and trace-forward of intermediate and finished food products is enthusiastically embraced by the government and food industry alike.51 “Traceability” is increasingly becoming an “end-to-end” automated containment system to track products, streamline production/schedules, reduce operating costs and improve customer service to increase efficiency and profitability.52 This process has become mandatory with the passage of the Canadian CanTrace Initiative and the U.S. 2002 Bioterrorism Act.53 (Ross Systems 2004).54 However, technological responses and traceability systems that contravene or interdict biosecurity threats or weaknesses do not

51 Trace-back and trace-forward: from whom ingredients where received and their disposition in intermediate/finished product and where the intermediate or finished product is sent (Ross Systems 2004).
52 From farm to consumer and every step in between.
53 2002 Bioterrorism Act is actually entitled, “Public Health Security and Bioterrorism Preparedness Act 2002”.
54 Similar legislation to the Bioterrorism Act 2002: European Food Safety Authority (EC No. 178/2002) outlines the Global Food Law; in Japan, the Japanese Agricultural Standards.
address systemic problems. They are linear approaches to resolve only the symptoms of root causes. Also, their successes may be limited because of the scale, scope and complexity of global agriculture-and-food-system costs for enforcement and compliance.

However, for some corporations, traceability may mean a transformation from a regulatory burden to a branding opportunity for value-added profit and market share. Branding is becoming synonymous with safe food, and processors through to retailers increasingly assess their ability to help retail and wholesale customers protect their brands and reputations. As a result, traceability is becoming a competitive element and a demonstration of reliability that extends to processors and suppliers (Ross Systems 2004; Fusaro 2004). Every participant in the supply chain assumes the risk of poor quality control, regardless of which partner causes the problem (Ross Systems ibid.).

**Re-localization as a Food System Alternative**

Despite the effects of globalization and emerging food system vulnerabilities, or possibly as a result of the effects, alternative food initiatives are appearing and evolving. These initiatives share a social and political agenda that opposes the economic structures and processes maintaining the current food system (Allen et al. 2003). Conceptually and in practice, alternative food systems envision a sustainable food system as relational, proximate, diverse, ecologically sustainable, economically sustaining, just/ethical, sacred, knowledgeable/communicative, seasonal/temporal, healthful, participatory, culturally nourishing and sustainably regulated. Kloppenburg, et al. (2000) explain these principles and note their complementarities and tensions, while examining the possibility of empowering communities through the means provided by alternative food systems. Furthermore, Lacy (2000) and Koc and Dahlgberg (1999: 16) suggest that the ways in which we view and structure work, generate and disseminate knowledge through science and technology, produce and distribute and consume food are essential factors affecting our sense of self and the empowerment of our communities. How we shape decisions and actions around work, science and technology and food is crucial to achieving a just and

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55 Technological fixes gaining credibility and feasibility include, toxin indicators in packaging (diagnostic packaging) (FN-USA 2006), global positioning traceability (AAFC 2006), animal Identification and tracking systems (Thompson 2006), real-time pathogen detection technology (Lambert 2006), radio frequency identification (RFID) technology (Avail Corp 2006), vaccine-treated livestock (Thompson 2006), and plankton luminescence for toxin detection (Somers 2005). See Vernède, et al. (2003) for an in-depth discussion on the state of the art and future developments of traceability in food processing chains.

56 People appear willing to pay more for the security that goes with buying brand names: “[t]hat’s an additional value in our products. It’s not something you can communicate to consumers but somehow they know how careful we are with the whole food supply chain. Folks are willing to pay a premium for our products because of that care” (Fusaro 2004).
sustainable agenda for the future. Thus, food is both a symptom and a symbol of how we organize our societies.

**The ALR and a Potential Role for Localization**

The Agricultural Land Commission Act requires local land-use bylaws to be consistent with the ALC Act. Currently, local governments’ Official Community Plans (OCPs) are referred to the ALC, as required by the British Columbia Local Government Act, with regard to local agriculture and its significance to ALR lands. Furthermore, local government Farm Bylaws provide a mechanism for land-use compatibility, and a means of resolving farming-activity issues that are presently difficult to regulate through conventional land-use bylaws. Finally, Agricultural Area Plans (AAPs) provide a mechanism for identifying farming issues and developing supportive policies, with regard to land-use compatibility and industry sustainability. Such goals would require a co-coordinated framework between local governments and the ALC to provide for land-use planning and the protection of agricultural resource lands.

**Climate Change and a Potential Role for Localization**

If the accumulation of food miles and the use of fossil fuels make current agri-food systems a major contributing factor to climate change, then there may be a significant advantage to establishing more-local horticultural production and distribution systems (Millstone and Lang, 2004: 66–67). A number of options are available for mitigating the effect of CO$_2$ emissions on the agricultural industry, including the reduction of emissions from present sources and the creation and reinforcement of “carbon sink potential”, such as sequestering through afforestation and soil building in managed soils. On a positive note, soil carbon sequestration possesses a finite capacity over a period of 50 to 100 years, as new equilibrium levels of soil organic matter are established. Nonetheless, deliberate efforts to

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57 Section 903 (5) of the Local Government Act requires that bylaws not restrict the use of land for a farm business, unless approved by BC MAL once a regulation under section 918 is passed. The MAL Guide for Bylaw Development in Farming Areas provides a useful set of standards for bylaw amendments involving the ALR.

58 The Local Government Act strategic and consultation guidelines are aimed at improving communications between local governments and Provincial Ministries. See Smith (1998) and BC ALC (2004b) for useful references to agriculture and the Local Government Act.

59 An AAP is a process that is becoming more common with agriculturally focused planning process being undertaken by a number of local governments. Commonly, AAPs have been assisted by steering BCAC committees, relying heavily on representation from the farm community (Garrish 2002).

60 Adaptation in this context refers to actions required to adjust to future changes in the climate, to both minimize negative impacts and take advantage of new opportunities. Mitigation means reducing or eliminating human influences on the climate, primarily by reducing greenhouse gas emissions (Environment Canada 2004).
increase soil carbon can improve the productivity and sustainability of agricultural production systems. According to the Intergovernmental Panel on Climate Change (1996a), the best management practices to reduce soil degradation and environmental pollution are consistent with mitigation measures that significantly reduce the effect of GHGs in the agricultural sector. Such measures could include the following:

- Regulatory measures that limit the use of nitrogen fertilizers through flexible commodity programs, cross-compliance of agricultural and environmental objectives
- Voluntary agreements that encourage soil management practices to enhance carbon sequestration in agricultural soils
- Market-based programs that reform agricultural support policies; taxes on the use of nitrogen fertilizers; and, subsidization of production and the use of biomass energy

As a response to the food-security vulnerabilities introduced by climate change, the localization of agriculture seems to coincide well with the stated objectives by the B.C. Ministry of Water, Land and Air Protection’s *Weather, Climate and the Future of B.C. Plan* (2004a), which include the following:

- Risk Management: supports responsible action on the part of the government and its partners to reduce the environmental and economic costs of extreme weather and climate change; fosters the development of new markets
- Economic Revitalization: supports actions that can reduce costs, assist in securing strategic-market positions for businesses, help businesses and communities prepare for weather extremes and develop economic opportunities in domestic markets

B.C. has already entered into a bilateral agreement with the federal government to implement the Agricultural Policy Framework, committing the province to reduce GHG emissions from agricultural operations by 8.0 percent to a target of 2.4 million tonnes by 2008. Under the framework’s environmental farm-planning component, the range of recommended management activities includes farming that promotes conservation and zero-tillage and the use of winter cover crops and improved grazing practices to control soil erosion. Other recommended practices include the use of better irrigation to conserve water and the protection of water quality through improved nutrient and manure management: actions that reduce agricultural GHG emissions by enhancing carbon-sink potential in soils. “Growing carbon” on agricultural lands could, in itself, create a new “crop” for B.C. farmers (B.C. MWLAP 2004b). While increasing temperatures present a range of challenges for farmers, the altered landscape may offer opportunities for a greater diversity of crops.
However, the risk of negative climate impacts on the agricultural industry increases with the magnitude of climate change.

The localization of food production and an increase in regional and seasonal consumption in the Lower Mainland may act as both an adaptation and mitigation measure, simply by the subsequent dramatic reduction of food-miles and the need for energy-intensive modes of transport and production. The localization of food production and consumption could go a long way toward meeting the objectives of B.C.’s Future’s Plan by providing the opportunity to develop new or expanded markets closer to home, and by supporting healthy community development. Eventually, a forced internalization of the costs associated with petroleum-fuel use will enhance public awareness, possibly leading to widespread intersectoral support for localization of agriculture and the recognition of these food-production activities as a public good or, at least, a good public policy.

Peak Oil and a Potential Role for Localization

Depending on the organization and structure of production and distribution of produce re-localization, and a concomitant increase in the Lower Mainland in regional and seasonal consumption, may act as both an adaptation and mitigation measure as food-miles and the need for energy-intensive modes of transport and production become less favoured. The localization of food production and consumption could go a long way toward meeting the objectives of B.C.’s Future’s Plan (HSF 2007) by providing the opportunity to develop new or expanded markets closer to home, and by supporting healthy community development. Eventually, a forced internalization of the costs associated with petroleum-fuel use will enhance public awareness possibly leading to widespread intersectoral support for the re-localization of agriculture and the recognition of these food-production activities as a public good or, at least, a good public policy.

Localized agriculture and food sourcing—while not immune to the consequences of peak oil—may offer a temporary salve during a global energy shortage in the form of market and economic development opportunities that take advantage of proximity, a productive agricultural land base and the capacity to substitute for imported food, as the global system adapts to higher fuel costs. Today’s growing replacement of independent neighbourhood shops by distant superstores and supermarkets may become anachronistic: instead, the pressure to accommodate local food needs will take precedence, as the industry steps in to
reduce food miles and re-orient energy-intensive farm operations, such as refitting B.C.’s hothouses. A variety of local market sectors may respond directly and indirectly to accommodate the needs for a re-localized or contracted food system. For example, the general public may be encouraged to accept a greater level of urban densification, thus indirectly relieving development pressure on local agriculture reserve land. The phenomenon of localization, then, as a response to pre- and post-peak oil could offer a market and economic-development model for food production that has a greater appreciation for the multi-functionality of biophysical resources, and the meanings of responsible utility (i.e. sustainability and food security).

Biosecurity and a Potential Role for Localization

Although industrialized, large-scale organic and conventional production represents the most likely targets for contamination, smaller-scale production systems, including systems with short distribution links, still present problems that need separate consideration. It is questionable if localized food-system stakeholders could benefit from the highly capitalized, high-tech biosecurity measures designed to address food-safety problems created by a globalized food-supply system. The costs may be intimidating for relatively small-scale producers and processors to participate in traceability and accountability measures. Thus, as with the globalized food-supply system, plausible risks need to be considered within the localized food system to maintain food-system standards and, as necessary, provide rapid detection, identification and effective response to mitigate adverse public health threats.

Though local food supply chains can be complex, food produced locally and processed for local consumption may be easily traceable; it is geographically proximate and stakeholders from producers to retailers are immediately accountable. Furthermore, fewer intermediaries modify and handle food and agricultural products at the local scale, and shorter distances reduce opportunities for intentional or accidental contamination. A decentralized local food system would require different traceability measures appropriate to the scale and diversity of production. It would consider plausible risks within the local food-and-agriculture stakeholder context, including an assessment of consumer acceptability and confidence.

Localized food systems may reduce many variables of the industrial and global system that affect food safety, making it more difficult for system perturbations to have a significant, widespread economic and population health impact. Assuming a localized food system is
diverse in its products, has a food processing and distribution infrastructure, has producers, buyers and consumers who are familiar with one another, biosecurity risks could decline as intermediaries and the distance between farm and plate diminishes, and as community and business interrelationships are strengthened (Hawaleshka, et al. 2004). Thus, a localized model with food-system coverage from farm to fork to disposal could be less problematic when combined with context-appropriate biosecurity measures.

The Prospect of Self Reliance in British Columbia

Re-localization of food and agriculture systems supports self-reliance efforts and a realization of the emerging necessity for local food security. Self-reliance does not mean 100 percent self-sufficiency, but a balance between some degree of reliance on local production and products, and reliance on global agri-food trade. In such a scenario, imports could make up for horticultural industry shortfalls, and local production could be exported to other markets after local needs are met. According to Baxter (1998), British Columbia’s growing population—estimated to reach six million in 2026—cannot sustain agricultural productivity at a rate of 100 percent self-sufficiency in volume or diversity, because the province is already dependent on other parts of the world for our food supply, and because B.C.’s boundaries are set by geography, rather than ecological parameters or agricultural productivity.

According to Statistics Canada (2001), B.C. had approximately 692,200 ha (6,922 km²) of dependable (soil-based) agricultural land, with the remainder (4,072,434 ha or 40,724 km²) affected by increasing restrictions—including climate and geo-bio-physical properties—on productive capacity. According to Zimmerman (2005), a person needs 0.5 ha of cropland and pasture to maintain a nutritious and sustainable diet. However, Wackernagel and Rees (1996: 82) indicate that a vegetarian diet of fruits, vegetables and grains requires 0.35 ha/capita, and with animal products, a requirement for 1.30 ha/capita. Given that more than half (2,925,573 ha of 4,728,557 ha) of B.C.’s ALR land inventory is farmland, and assuming Zimmerman’s per-person land needs provide for a nutritious and sustainable diet, B.C. farmland could feed approximately five million people from its soil and water. This assumes that 2,475,000 ha of equally capable lands across B.C. are available for food production, which they are not. An added incentive for increasing local production includes the fact that,

61 There is no indication if this sustainable diet includes animal products or is strictly vegetarian or vegan.
between now and 2050, the U.S. population is expected to grow to 530 million people (a 50 percent increase), while its high-quality farmland consequently diminishes by 13 percent (a rate of 49 ha/hr over 44 years), possibly transforming Canada’s main food trading partner into a net food importer (Zimmerman 2005; ALR-PEC 2005).

**B.C.’s Current Level of Self-Sufficiency**

In 1979, the Select Standing Committee on Agriculture (B.C. SSCA 1979, Phase 1) sponsored a study to develop a series of B.C. self-sufficiency scenarios for 1976 and 1996. The Committee was given terms of reference that included the then current area in cultivation, the maximum possible cultivation level in 1976 and 1996, a 70-percent cultivation rate in 1996 and a few other models examining such conditions with livestock production either reduced or eliminated. In 1976, approximately 624,000 ha of the ALR landbase of various capability classes were actively farmed, sufficient to meet about 45 percent of the province’s food-consumption needs. In order to meet 100 percent of the province’s food needs, more than 1.8 million hectares of the ALR would have required farming. Based on the provincial models, the amount of land needed for self-sufficiency increased, because greater proportions of less capable land were utilized for farming.

An assessment of the productive capacity or productive strength of a total agricultural system with multiple product capabilities can be expressed in terms of the product demands placed on the system. According to the B.C. SSCA (1979: 160), productive capacity could be measured according to the levels of consumption that occur within a defined reach of the system, i.e., the total food requirements of B.C. The B.C. SSCA (ibid) stated that some in-demand products could not be produced by the system. In 1976 and 1996, B.C. was within its productive capacity means to be up to 70 percent self-reliant in food, and as the authors of the 1979 study observed then, “as long as it (i.e., products demanded cannot be produced by the system (BC SSCA 1979:160)) represents a minor amount of the total food requirements considered, they can be disregarded in favour of concentrating on the capacity to produce products capable of being produced locally.” However, by 2001 a 70-percent degree of self reliance may no longer be possible, at least as far as the local (B.C.) food

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62 Given the time and available informational resource constraints at the time of the 1979 study, Talisman Projects, Inc. used the analogue method to determine the relationship between capability class and crop yield. This method is not without limitations and caveats, of which there are too many to be listed here. Please see BC SSCA (1979: 8-11, 18-29) for a thorough review of the analogue methodology limitations. Of course it can be assumed that any computational errors on the part of this researcher will only compound inherent errors from the method’s limitations. With this in mind, I have taken as comprehensive an approach to data collection as possible under my own resource constraints.
system as a whole is currently oriented, defined and shaped by consumption and market demands, societal expectations and political priorities regarding land use and the value of land. Therefore, an effort to obtain 100 percent self-sufficiency is no longer a reasonable objective for several reasons: the evolution of consumption demands and preferences based on cultural and socioeconomic patterns; the maturation of a globalized food economy; and competing land-use demands that have placed significant pressures on the productive capacity of B.C.’s farmland. The Greater Vancouver Regional District\textsuperscript{63} Regional Growth Strategy (GVRD 2002) and its member municipalities contributed to maintaining the vitality of the Metro Vancouver farm sector, while realizing continued population growth (Smart Growth B.C. 2004). However, the current trend—involve the loss of agricultural land to industrial and residential expansion while maintaining farm-cash receipts—cannot continue indefinitely.

**Food System Sustainability**

Food-system models that oppose the conventional/predominant food system attempt to re-frame the nature of economic and political power within a systems perspective. These models aim to integrate a more local and diverse cross-section of stakeholders to build integrity into food-system relationships. A relationship-based food system would incorporate a multitude of actors—people, organizations, businesses—and perhaps even move beyond to “technological advances, environmental characteristics, cultural influences, and other physical or conceptual entities” (Lockie and Kitto, 2002; Goodman 2002). A relationship-based food-system model embraces its own fundamental complexity. This complexity may also model more integrated roles for consumers, non-profit organizations, researchers and other external actors than those included in the conventional food-chain model. The health of a community’s food system can be an important indicator of its vitality and sustainability. People in developing and industrialized countries are designing and implementing sustainable and traditional food systems that are rooted in particular places, aiming to be economically viable for farmers and consumers, to use ecologically sound production and distribution practices and to enhance social equity and democracy for all members of the community (Feenstra 1997).

\textsuperscript{63} The Greater Vancouver Regional District was renamed Metro Vancouver in the autumn of 2007.
In order to reap the benefits of a sustainable food system, society clearly needs to abandon its shallow approach to existing problems in the current system, in order to adopt “deep solutions” (Hill 1994; Orr 1992; Berry 1993; der Ryn and Cowan 1996). Deep solutions demand that the system be redesigned and that its managers find entirely new ways to oversee the distribution and consumption of food, while maintaining the functional relationships between the land, the economy, the people and the environment. Berry (1992), Crouch (1993), Dahlberg (1993), Friedman (1993, 2006), Kemmis (1990), Kneen (1989), Pretty and Hine (2000) and Pretty (1994) suggest that alternatives should be founded on respect for the integrity of particular sociographic places (the social defined by geographic boundaries) for sustainable food production that respects cultural food needs within locally defined economic and ecological limits. Sustainable food production is achieved through practices informed by an in-depth knowledge of the ecological processes occurring on farms, and the landscape of which they are a part (Lezberg and Kloppenburg 1996a; Gliessman 2000). The notion of a political economy of food is well established (Bonanno 1998; Bonanno and Bush 1994; Pollan 2001, 2006), but the “political ecology of food” (Lezberg and Kloppenburg 1996a) has yet to be explored.

In order to maintain the viability of community food systems, a key factor to consider is the reciprocal relationship between producers and consumers (Hendrickson 1997; Kaktins 1997). However, to create successful relationships, producers and consumers require more food-system education, availability of local foods, institutional support mechanisms, community building, consumer participation, communication and increasing awareness (Harmon 1999; McCullum 2000). Welling (1999) argues for the need for alternative-policy options that support small-scale farmers to overcome marketing obstacles and those that provide more local business activities, as well as stronger economies and communities. Increasingly personalized relationships between farmers and consumers, processors and retailers and other stakeholders reconnect time and place in the production and consumption of food (Hendrickson 1997). Ikerd (1999; 2001b), Mander and Goldsmith (1996) explore the need for additional food-system alternatives at the grassroots level. Pelletier and Kraak (1999) found community food security to have a high level of salience in rural counties in New York, with salience being a function of the knowledge, beliefs, values and interests of a diverse set of food-system stakeholders who want to work co-operatively and harmoniously to ensure healthy communal living and eating habits.
Nevertheless, a society’s transition from intensive agriculture to regenerative food systems requires a basic restructuring of the interactions and relationships between natural, social and technological systems, dramatically affecting a community’s energy and resources (Hawken 1993; Dahlberg 1996, 1998). According to Dahlberg, this transition will require the following: systemic terms that describe the inter-linkages between agriculture, food environments, resources and technologies within a general framework of sustainability. Regenerative food systems should be based on health criteria and a fundamental respect for biodiversity, cultural diversity for life and social viability (Dahlberg 1996, 1998). A local food system must adapt new technologies and practices: those that emerge from the sense of trust embodied in new social organizations, and new horizontal and vertical partnerships between local institutions, as well as leadership, ingenuity, management skills and knowledge and the capacity to innovate.

Agroecology addresses sustainability issues of food production, distribution, consumption and nutrient cycling from a systems perspective: these components are inseparable and integral to each other through a complex communication process that regulates their function and structure (Altieri 1995; Gliessman 1998a, 2001). The multipurpose nature of ecologically based, traditional agriculture in Latin America demonstrates that the combination of stable and diverse production, internally generated and maintainable inputs, favourable energy input and output ratios and consistency between both subsistence and market needs effectively achieves food security, generates income and preserves the environment (Altieri 2000b). Each farm is considered a separate ecosystem, in which a significant percentage of inputs is created internally and recycled. Such a farm roughly approximates the ideal model of a closed system, with minimal exchanges beyond its own borders (Garvey 1972: 65). The Latin American example of the peasant farm demonstrates that the approach to reinventing the current agricultural system should be an evolutionary one that includes efficiency, substitution and redesign of agricultural practices (Hill and Vincent 1999).

Agroecological theory also concerns itself with socio-cultural issues. Human relationships and human interactions with the environment are essential factors to consider in the effort to maintain sustainable agroecosystems, as are the biotic and abiotic factors that constitute a farm. Pretty and Hine (2000) have identified five types of capital assets—natural, social, human, physical and financial—for sustainable agriculture. Agricultural systems rely for their
success on the value of services flowing from the total stock of these assets. A central tenet of sustainable systems is to support self-reliance and rural-community viability (Douglass 1984). Consequently, socioeconomic and political systems that complement agroecological principles are desirable features of a sustainable system (Norgaard, 1994; Schultz, 1985; Dryzek, 1987).

**The Need for Change in Farm Management**

Growing uncertainty about the benefits of industrial, large-scale, agricultural production, along with the social and economic costs of an increasingly globalized food system is fueling the alternative-agriculture movement, generating more enthusiasm for the creation of small farms managed by local people, who are conducting activities reminiscent of small landholders embedded in larger national and global systems (e.g. Gliessman 1998a; Rosset 1994; Clarke 2001: 331). Currently, farmers operate under uncertain market-demand conditions. Value-added and unique products, niche-oriented farms, diversification, entrepreneurial agriculture and support for locally grown food are phrases commonly heard in discussions about the future of farming and food security. This new way of thinking suggests that the objectives and intentions of farming and farm policy must be redesigned to reflect the broader demands and imperatives of society. Perhaps, as Friedland (2002) suggests, the very notion of “agriculture” should be redefined as separate from “agribusiness”, and only agriculture should “remain under the protective mantle historically embodied in [U.S.] agricultural policy.” From a local, democratic point of view, Koc and Dahlberg (1999: 112) claim that all social actors and agencies involved in the food-production process, from farmers to consumers, are separated from each other not only spatially and temporally, but also by their functionally different interests. Instead, as James and Eberle (2000) assert, alternative-marketing strategies opposed to producing standardized commodities as cheaply as possible would be an expression and practice of the “agriculture” that Friedland puts forward. Consumer groups dissatisfied with the current food-production system would tend to establish more direct linkages (Stagl 1999). Allen (1999), Hendrickson (1997) and Koc and Dahlberg (1999) claim that there is a need to restructure society by developing new relationships to food and its production and to develop different notions of trust that are grounded in more direct and intimate business relationships and social exchanges.
Owing to recent concerns about food safety, along with increased cynicism toward the machinations of agribusiness, several recent U.S. consumer surveys reflect a strong communal desire to put consumer dollars directly into the hands of farmers. Increasingly, consumers value the ability to interact with the person who knows how the crop or animal has been treated: a premium of traceability in an otherwise anonymous food system that depends largely on shortening the chain between the farmer and the eater (Halweil 2002: 59). Localized food systems can empower the “producer economy”. In contrast to the path of more conventional farmers, Ikerd (2001b) has observed an evolution of farming practices that elicits more control over farm operations and selling prices, promotes diversified production and maintains more direct and interdependent relationships with other producers, customers and the land. While the farmer’s production system in such a scenario is interdependent, individual autonomy is retained. According to Ikerd (ibid.), these farmers tend to buy locally and market locally, bringing people together around food and farming. By reducing costs through diversification, increasing their product values through niche marketing, and collaborating with peers when it’s beneficial, these farmers are able to net twice to three times the profits of conventional farmers. In addition, businesses that buy from these local farmers benefit because their costs of doing business decrease, concurrently fortifying business security and bolstering confidence according to Halweil (2003). But buyers are not aware that local farms can offer comparable or higher quality produce and service. Farmers need to show buyers the quality of produce and service they can provide (Starr et al. 2003).

**Concept of Foodshed**

The concept of linking agriculture, community and environment in North America is called “foodshed”: it demonstrates how different communities and agroecosystems can be enhanced through closer ties between producers and consumers and by utilizing organizations within rural communities. Foodshed advocates argue that local community and agricultural sustainability is greatly dependent on the establishment of common denominators or “connectors” between farm systems and their non-farm community(ies), which are of mutual benefit.

The foodshed concept provides an operational framework for thought and action: one in which stakeholders can explore locally or regionally based food-system relationships (Getz 1991) socially, economically and environmentally (Butler and Carkner 2001); Snyder 1992;
Hendrickson 1995; Bennett 1997; Meter and Rosales 2001). It provides for a holistic food-system analysis or commodity-chain analysis (Kloppenburg et al. 2000; King 2001a) within a socio-geographic place. Mutually beneficial relationships can be struck between local and global food systems. The foodshed approach recognizes that its emergent elements are embedded in—and often constrained by—the rules, interests and operations of regional and global actors and institutions (Kloppenburg et al. 1996). First developed in the 1930s during the Depression, the concept was later revived by Getz (1991) as a "conceptual and methodological unit of analysis" to study the social and biological links of how people within a specified "foodshed" satisfy their food demands. It asks where the food comes from, and for who does the system of marketing and distribution operate (Kloppenburg et al. 1996: 1).

If a society chooses to adopt the foodshed perspective, it permits individuals and communities to see the centrality of food to human life as a powerful template upon which to build relationships—within or beyond the marketplace—between people, social groups and institutions that have inadvertently become distanced from each other (Kloppenburg et al. 1996; Butler and Carkner 2001). These relationships offer a place for individuals to ground themselves in the biological and social reality of living on the land, and to develop a sense of the political ecology of food (Lezberg and Kloppenburg 1996a). Kloppenburg, et al. (1996) develops five foodshed principles on which any foodshed analysis is derived: commensal community, an effort to establish or recover social linkages beyond atomistic market relationships; self-protection, opposing the extension of the global-market-food system by providing an alternative food-system framework; secession, based on a strategic preference for withdrawing from, and creating alternatives to, the dominant system; proximity, suggesting a spatial component to challenge the distancing effects prevalent in the global-food system, where foodsheds become socially, economically, ethically and physically embedded in particular places; and, nature, measuring harmonizing human activities with the rhythms, patterns and natural conditions of the foodshed. Kneen (1989: 137/9) asserts that proximity conceptualizes food as an agent of reintegration into social and ecological webs, bringing with it inherent assumptions about nutrition, quality, efficiency, food security and financial return to the grower. Pollan (2006) notes that ongoing public discourse increasing links sustainability to proximity.

Kloppenburg, et al. (1996: 115), defines a local food system as a “self reliant, locally or regionally based [food system] comprised of diversified farms using sustainable practices to supply food stuffs to small-scale retailers, and consumers, to whom producers are linked by
the bonds of community as well as economy.” To produce and consume food within a
foodshed implies a community’s adjustment to the agroecological and social parameters of
a specific place (Lezberg and Kloppenburg 1996b: 29). The landscape is also “understood
as a part of that community, and, as such, human activity is shaped to conform to the
knowledge and experience of what the natural characteristics of that place do and do not permit.” In particular, Goreham and Stofferahn (2001: 31) insist on “a collaborative effort in a
particular place to build more locally based, self-reliant food systems and economies.” By
contrast, and according to Friedman (1993: 219), the dominant principles of the existing
food sector—enforced by the self-regulating market system—are distance and durability.
The principles of distance and durability within the dominant global-food system refer to an
attempt to make place and time irrelevant, as the location of production may change as
quickly as the flux in market conditions. When food is devalued by the market imperative, its
only relevant characteristics are its quality and price; its place of origin is of interest only as a
marketing feature.

The Development of New Marketing Strategies

Most people in the North have been urbanized to such a degree that they are largely
isolated from nature’s processes and from the countryside where their food is produced. If
an appreciation for local food is spreading, it is taking place despite the fact that most
consumers have little information about the food they eat, and almost no exposure to
farming or rural life. Local food alternatives can offer economic benefits, because every
dollar spent on local produce at farmers’ markets stays in the community through incomes,
supporting farmers. Some people realize that relying more on locally grown foods can help
solve a number of social and environmental problems at the same time. Brown (1997)
determined that marketing local products should stress quality, freshness and price
competitiveness.64 Torjesen, et al. (2001) found that conventional food-quality aspects, such
as freshness and taste, are important to all consumers, and that those who purchased
organic foods were more concerned about ethical, environmental and health issues. In
essence, consumers with a “local orientation” in the food market appear more likely to buy
organic food, while “social considerations” are equally important to all.

64 Consumers who were members of an environmental group and had a higher education and income were more likely to
purchase organic food and were more willing to pay a higher price for local produce. Households in which someone was raised
on a farm or had parents raised on a farm had a preference for locally grown food and were willing to pay a premium price for
it.
Goland and Bauer (2004) found a strong congruence between sales in local markets and the production of old varieties of fruits and vegetables; supporting claims by proponents of sustainable agriculture that preservation of crop biodiversity might be as salient a characteristic as taste (flavour). Goland and Bauer (ibid.), for instance, found that local markets, such as roadside stands and "pick-your-own" operations played an important role in the preservation of heirloom varieties of apples. Over the past 10 years, the growth in number, scale, diversity and attendance at farmers' markets across North America increased dramatically (Corum 2001). Locally, farmers' market customers generate additional economic activity as the market establishes trust and loyalty between vendors and customers.

Robinson and Smith (2003) found some consumers are interested in supporting sustainable production practices and their support may be linked on a larger scale to improving personal, environmental and community health. Kloppenburg et al. (2000) explored the attributes of food-system sustainability with 125 persons representing a broad cross-section of the alternative farm/food community. Participants were asked what the characteristics of a sustainable food system would be and they responded by expressing their vision of a sustainable food system as follows: relational, proximate, diverse, ecologically sustainable, economically sustaining, just and ethical, sacred, knowledgeable and communicative, seasonal and temporal, healthful, participatory, culturally nourishing and sustainably regulated. Pugliese (2001), suggests that “manifold synergies” exist between [small-scale] organic farming and sustainable rural development, and he identifies four main points of communality: innovation, conservation, participation and integration. All of these concepts represent critical strategies of sustainable rural development, and, at the same time, key features of modern organic-farming ideology and practices.

By challenging the global-food system and empowering farmers, individuals and communities can create healthy alternatives, such as those built upon buying food produced regionally and organically, as well as in knowing the farmer who produces it. In such a case, the group is apt to reconnect time and place with the production and consumption of food, reinforcing the development of social and economic arrangements that further empower farmers and communities. Emerging alternatives of production and consumption also foster a sense of trust through more personalized relationships between the multitudes of actors in the food system: farmers and eaters, processors and retailers, farmers and retailers and farmers and processors. These models of emerging alternatives may help to re-localize
production and consumption relationships in the food system in equitable ways (Hendrickson and Heffernan 2002). For instance, Stephenson and Lev (2004) researched an increasingly successful approach to enhancing small-farm viability, by having farmers market their products directly to consumers and to food-oriented businesses and institutions within their local area. Although the two communities Stephenson and Lev studied contrasted with each other socioeconomically and politically, they demonstrated a common support for local agriculture. The results of their research exhibited the potential for developing more localized food systems in both communities. However, as the research revealed, each community would need the types of products, their method of delivery and pricing tailored to fit its respectively unique needs and resources. Friedmann (2006) reveals in her overview of Toronto’s Local Flavour Plus’ (LFP) successful model that fosters collaborative relationships between producers, institutions and two multinational corporations. Such relationships, considered crucial for a scaling-up of local supply chains, are founded on the LFP’s uniquely defined standards and verification system that allows local producers and buyers to enter local supply chains with confidence while continuously raising standards of sustainability.

**Local Food Systems and Food Security**

According to Welsh and MacRae (1998), the traditional food system in Canada cannot address food security issues for the following reasons: the present system does not provide nutritious food and is not interested in providing nutrition; food is not cheap; hunger is largely a problem of insufficient income and the structure of the food system; and, the food system is not capable of addressing environmental degradation without significant redesign. Efforts to establish better food security and sustainable farming practices may be pointless if the restructuring of market forces is left to the dictates of the global food-system agenda (Lang 1994; 1997; 1999a, b; Heffernan 2000).

Compared to the more impersonal globalized system, the local food system “exposes the traditional linear means of moving food from farmers through a complex system of marketing, processing, packaging and selling with the idea that all members participating in the local food system are intricately linked in a web (network) of connections” (Vergunst 2001: 8). The flow from farmers to consumers in local food systems can be characterized by three important elements: First of all, these systems involve the exchange of food. Secondly, they foster the flow of information from the producer to the consumers. Finally, they provide
nonmaterial and immeasurable qualities associated with the flow of food and information (Vergunst ibid.). Vergunst (ibid.) suggests that local or community-based food systems refer to “consciously formed systems characterized by close producer-consumer relationships,” depending on locally grown food and necessitating citizen participation as a central, constructive element. Lezberg and Kloppenburg (1996a,b: 31) suggest that a “politics of engagement” can happen only within a limited and defined place, not a global everywhere, and that such a scenario depends first upon people being profoundly involved with finding solutions to public problems and by formulating and enacting the “common good”.

Ultimately, a localized food system is one that offers options to producers and consumers, and clearly illustrates the outcome of these choices. By contrast, the “distancing” of producers and consumers tends to increase socially irresponsible behaviour, while obscuring participants from each other and hiding the impact of their market decisions (Princen 1997). A more localized food system invites growers to move away from resource-intensive, industrial-scale agricultural practices and toward regional food production (Kloppenburg et al. 1996; King and Feenstra 2001; Hinrichs 2000; Masi 2002). Nonetheless, the effort to expand awareness about the benefits of alternative practices presents a serious challenge for many farmers (Morgan and Murdoch, 2000). In order to alter their existing production methods, farmers must step away from their conventional routines and habits and forego a number of industrial incentives. Communities face another challenge when it comes to considering the extension of alternative practices to other subsystems of agriculture, such as rangeland (Conway, 2000). However, the effort to build closer connections between producers and consumers within an intentionally localized system encourages these alternative-farming practices, because localized production methods become more transparent to participants. Consumers will be more inclined to ask farmers how farm foods are grown or raised and thereby build demand for environmentally responsible farming practices. From a physical standpoint, these closer connections will reap positive environmental benefits with respect to decreasing transportation costs, diminishing required energy inputs and reducing transportation-related air-, soil- and water-pollution.

Local food systems operate in a “niche market” or on the “periphery” of the larger food system (Hendrickson and Heffernan 2002; Gilg and Battershill 1998); thus, a relationship-
based, food-system model that gives more consideration to factors outside the main channel of the food chain would better describe an alternative, intentionally “localized” food system. The efforts to move more closely toward such a model include the following:

- Policy reform and interventions at the local, global scale;
- Education initiatives, in the form of in-season cooking lessons, nutrition guides, school gardens, agriculture in the classroom, buy-local campaigns;
- Alternative agricultural practices, such as cover-crop planting, organic/sustainable agriculture;
- Alternative agricultural projects, such as community-supported agriculture projects, urban gardens, community gardens;
- Food-policy councils and food alliances;
- Advocacy programs involving food security, anti-hunger campaigns, community health issues, nutrition awareness, environmental improvements;
- Cultural reform, with an emphasis on regional cuisine, building a sense of community around the dinner table; and,
- Innovative marketing strategies, including producer co-ops, online marketing, direct marketing and buying warehouses.

In addition to their role in providing employment and basic sustenance, food and farming reflect important dimensions of local culture. Food is an expression and appreciation of human emotion, culture and creativity and a means for people to connect with others and with nature. Food also represents pleasure and nourishment for many people. Therefore, the food system is an integral aspect of the essence of human experience. The identification of place through regional cuisine can provide a sense of cultural identity and integrity. The act of eating serves as a communion with peers and local agriculture. The Slow Food movement is one social response to the erosion of the quality in food. Slow Food advocates celebrate small-scale, diversified agriculture and local cuisine. Diversified and place-specific food systems tend to thrive in localized food economies, much more so than in the heavily centralized and industrialized systems dominating the current landscape. According to Hendrickson and Heffernan (2001: 17), a local food system has “the potential to reorder time and space and thus to reconnect food and people spatially and temporally” where, “eaters know the people who are producing their food. Thus social time is triggered by eating particular food products.” In order to embody time in the natural cycle of a local food system, community members should know the seasonality of foods, by which time and place is reconnected as Feenstra et al. (1991) suggests, by developing “seasonal food guides to educate consumers about how to meet nutritional needs by eating locally produced foods in season.” Clancy (1993), Gussow and Clancy (1986), Herrin and Gussow (1989) and Wilkins
(1995) explore seasonally available foods to create nutritious menus throughout the year. Local food systems can provide an adequate diet through local strategies of co-operative and innovative marketing that link regional agriculture, food-policy planning, retailing and sustainable production (Clancy 1993; Feenstra 1997; Allen 1999; Karp 1999; Koc and Dahlberg 1999; Lyson and Green 1999; Lacy 2000).

The creation of alternative food-and-farming strategies reflects a growing sense of communal dissatisfaction from civic groups and individuals concerned about food-system sustainability, and at odds with conventional food-system models that overlook a more collaborative and systematic approach. It should be noted that building an intentionally localized food system is place-and-relationship specific. A localized food system can define and incorporate social equity and justice (Pothukuchi and Kaufman 1999; Rosset 2003; Community Food Security Coalition 2005), strengthen culture and community vitality (Williamson et al. 2002; Bellows and Hamm 2001; Ikerd 2001a; Shuman 2000; Slow Food USA 2004; Miele and Murdoch 2002) and increase the responsiveness of society against destructive habits towards nature (Princen 1997). Localized food systems encourage transparency in the food-and-farming system, while enhancing public community awareness about the complex web of costs associated with the current system. From a systems perspective, improving the sustainability of a food-and-farming system requires, as cited in Heller and Keoleian (2000: 9), “a thorough understanding of the relationships between food consumption behaviors, processing and distribution activities, and agricultural production practices.” Most importantly, localized food systems invite a more holistic approach to mitigate the costs that are typically ignored within a neoclassical economics paradigm.

By involving citizens in the transition process, revitalizing local food production and generating diverse, direct-marketing opportunities like farmers’ markets, communities can play a bigger part in improving food security. Various communities may gain greater access to local food by encouraging and supporting initiatives such as urban gardens, traveling farmers’ markets\(^\text{66}\) and community-supported-agriculture (CSA) farms. Citizen participation in localized food systems through deliberate local purchasing and eating habits integrates agricultural production with food distribution to enhance the economic, environmental, and social well-being of a particular place. In a local food system, food production is still “an\(^\text{66}\)

\(^{66}\) Traveling farmers’ markets that visit multiple low-income neighborhoods help residents overcome transportation barriers to obtain better access to fresh fruits and vegetables.
inherent part of a socially meaningful process, the building of community” (Goreham and Stofeerahm 2001: 21).

Re-localization and the Local Economy

Over the years, the corporate food chain has lengthened the distance between producers and consumers in a manner that prevents consumers from clearly understanding how their food was grown, processed or treated during its 2,400-to-4,000-kilometre journey (WWI 2002). The localization process reduces the scale of food systems, creating economic development opportunities, as well as environmental and socially positive external benefits such as retaining green space, potable groundwater, or additional opportunities for cultural events (Norberg-Hodge et al. 2002: 61). A more localized system may strengthen and stabilize a region’s economy by providing a consumer base, a labour pool and other types of investment capital that are geographically and culturally rooted. When the capital associated with the food system is more established in a region, that investment is less likely to be uprooted and moved from the region in question (Bellows and Hamm 2001). Independently owned operations tend to support the will of a community, unlike larger businesses or corporations (Shuman 1998). Localizing the food system allows money spent by consumers at locally owned institutions to re-circulate in the local economy, whereas money spent at non-local institutions tends to leak out of the local economy (Williamson et. al 2002; Shuman 1998; Sacks 2002). In one study, an organic farm’s income was found to generate twice the revenue for the local economy as a supermarket’s income in the same area (Sacks 2002). Money that is spent again in a local area by a local institution or individual provides as much value to the local economy as attracting new money into that area (Ward and Lewis 2002).

The proponents and beneficiaries of industrial agriculture assume this method of food production is economically more efficient than that of small-scale, diversified farms. Agricultural agencies tend to emphasize labour-efficient, capital-intensive methods over labour-intensiveness and land-productivity or biological efficiency. Small-scale farms may possess a lower productivity per-unit of labour than highly mechanized farms, but smaller farms can be more efficient if the most productive use of the land is the goal (Norberg-Hodge et al. 2002: 75). In the United Kingdom, for example, farms less than 40 hectares provide five times more jobs per hectare than those larger than 200 hectares (Raven and Lang 1995). Small-scale, diversified agricultural systems can have a higher total output per unit of land than large-scale monocultures (Rosset 1999). Some agricultural economists are
beginning to acknowledge an inverse relationship between farm size and the output from smaller farms, with a small farm’s productivity ranging from 100 to 500 percent per hectare higher than larger farms, and some of those small farms producing more than 10 times as much value per hectare as large farms. Cobb et al. (1995) found that small-scale organic farms can have 15 percent higher gross revenue margins than the typical returns associated with conventional, larger farms. An economic argument can be made for preserving local crop diversity, since diversity can help to reduce dependence on expensive energy and other inputs. Organic farms, which rely less on purchased inputs and more on taking advantage of on-farm ecological processes, cost less to maintain and make more productive use of the land and available resources (Halweil 2002: 29).

“Going local” does not mean putting communities into a state of economic isolation and eliminating international trade. Instead, increasing local food production, processing, storage and distribution means nurturing local businesses, which use local resources, employ local workers and serve primarily local consumers. Such a system means making communities or countries more self-reliant and less dependent on imports. The more localized the food system, the less people need global-transport networks and the associated negative ecological impact of these networks. Under a system of increased localization, the degree of diversification, the choice of goods produced and the amount of trade maintained would vary from region to region. Local market opportunities may require many farmers to shift from their current role as mass marketers of generic commodities to an entrepreneurial approach that is responsive to local consumer demands. For example, farmers may benefit from coming together through marketing co-operatives that enable them to share marketing, transportation and distribution capacity, as well as provide opportunities to link with key institutions, such as restaurants, caterers, school cafeterias and independent grocers.

Buy BC Program

Buy BC program started in 1993 as a food and beverage initiative jointly undertaken by the provincial government and private industry. It is managed by the BC Agriculture Council. The Buy BC program initiatives were designed by a board of industry advisors to benefit those who pay for and use the program. More than 1,200 companies and associations use the Buy BC logo in their advertising and promotional materials, and over 5,000 Buy BC products are identified at major grocery retailers throughout B.C. The Buy BC program has effectively increased consumer awareness of B.C. products to capture consumer demand.
As a marketing tool for B.C. companies involved in the agri-food industry, it has enhance sales for large- and small-scale producers alike, but especially those who find it difficult making their products visible in the marketplace. Once entirely funded by the provincial government a user fee is now charged to sustain the Buy BC program and offset its operating costs (BCAC 2008).

**Community Supported/Shared Agriculture (CSA)**

The Community-supported agriculture (CSA) idea originated in Japan nearly 40 years ago and was called “Teikei” which means “partnership” (Boyd 1997). By the early 1990’s there were over 400 CSAs, and by the turn of the century well over 1000 CSAs in North America (McLaughlin and Merrett 2002). CSA is seen as an alternative to the globalized, impersonal agri-industrial food system (Cone and Myhre 2000; Dahlberg 1996; Ostrom 1997) with more direct social links that increase responsiveness to consumer needs, community-food security and sustainability (Allen 1999; McLaughlin and Merrett 2002; Stagl 1999). Verhaegen, et al. (1999) identified the profitability and optimal management structures of CSAs in order to eliminate financing costs and create an up to three-fold increase in revenue for producers. In such a scenario, consumers also received a significant return on their investments while sharing in the risks with the farmer(s) to produce food. CSAs are considered a leading strategy for revitalizing local food security (Ostrom 1997; Sabih and Baker 1998). And furthermore, the emergence of CSAs in Iowa holds promise for other rural areas. CSA offers opportunities for small-scale, beginning and part-time farmers—not only growers of vegetables and fruit, but also providers of animal products, such as meat, eggs and wool. For conventional farmers, CSA offers opportunities to diversify. As a food-systems model, the benefits of CSAs transcend growers and the members who receive fresh, healthy food. CSA presents a comprehensive local action strategy for transforming the daily lives of individuals and the daily rhythm of the community. With food as a focal point, CSAs bring a growing circle of people into a closer relationship with their immediate environment—the farm, nature and each other.

The CSA concept may be a useful strategy for revitalizing local food economies and promoting community-controlled economic development, enhancing local food security, protecting the environment, and preserving small-scale agriculture. Even for conventional farmers, a CSA could provide opportunities to diversify the way that a farm storefront allows
a producer – or collective of producers – produce a variety of products for an advantage over supermarkets. A CSA has the potential to bring a growing circle of people into a closer relationship with one another providing an extended network of local, small-scale actions. Trust and social connection characterize direct agricultural markets.

The CSA have the capacity to deliver value to both the producer and buyer (consumer/buyer). An analysis of a Canadian CSA operation measured the impact of the share price on the farm budget and returns and found that revenues increased by 34.0 percent, eliminated financing costs equal to 1.1 percent to 3.4 percent of total revenues, and yielded a net balance three times greater than traditional techniques. For the CSA member, or consumer/buyer, the $180 share price appreciated 38.9 percent in terms of produce value (Sabih and Baker 2000). In terms of commodity relations, CSAs probably move closer towards the de-commodification of food than any other direct market avenue. Also, a CSA can be a concrete way for consumers/buyers and producers to participate in cooperative partnerships in a re-localized food system. Kaktins (1997) identified internal and external barriers that might discourage producer and consumer participation in CSAs: the paradigm for cheap food and convenience resulting in a lack of income and non-monetary support, consumer unwillingness to participate directly in CSA operations, disassociation of consumers from food production and a general misunderstanding of the CSA concept.

_Urban agriculture (UA)_

Urban agriculture is an industry located within (intra-urban) or on the fringe (peri-urban) of a town, a city or a metropolis, which grows and raises, processes, and distributes a diversity of food and non-food products, using or reusing largely human and natural resources, products, and services found in and around that urban area, and in turn supplying human and material resources, products, and services largely to that urban area (Mougeot 1999). Lyson and Guptill (2004) distinguish [civic] agriculture (DeLind 2002; Lyson 2000) from commodity agriculture in that the former represents the rebirth of a more locally oriented agriculture and food system. They found in their study of “…the factors and conditions associated with the presence and growth of both types of agriculture, that civic agriculture was associated with particular commodities and with specific social, economic and demographic characteristics and localities. Commodity agriculture, on the other hand, is more sensitive to the classical factors of production namely, land, labor, and capital” (Lyson
and Guptill 2004: 370). What most fundamentally distinguishes civic or urban agriculture is that it is typically linked to direct sales to consumers through local or regional markets.

In terms of a continuum of settlement density, however, urban agriculture in Taipei, Taiwan, or Habana, Cuba (Murphy 1999), could be instructive comparisons with the City of Vancouver and the Lower Mainland. Perhaps the most distinguishing factor would be that in and around the dense urban centres of Taipei and Habana, urban agriculture resulted from planned and managed implementation of land reform that allowed predominantly small-scale producers, and the general public, facilitated access to crop production resources and markets within their respective cultural contexts. In both cases, government support was intentional, extensive, active and strong. Notwithstanding the establishment of the Agricultural Land Reserve in British Columbia nearly 35 years ago, civic group advocacy and the Vancouver Food Policy Council in 2004, urban agriculture in Vancouver and the Lower Mainland is comparatively fortuitous, fractured and lacking sufficient policy and structural support at the provincial and municipal government levels. Possibly all of the Metro Vancouver and the Fraser Valley Regional District is peri-urban and could be considered urban agriculture.

**Competitive Advantage**

According to Smith and Flanagan (2006) competitive advantage highlights what a firm, or as in this case, a local food and horticultural industry can offer in tangible terms such that their customers' hierarchy of buying criteria is understood as speaking directly to the buying interests of the “customer”. The basic elements of competitive advantage can be divided into four main global areas:

- **Cost**: Low-cost operations
- **Quality**: High quality, Consistent quality
- **Time**: Delivery speed, On-time delivery, Development speed
- **Flexibility**: Customization, Volume flexibility, Variety

Gooch (2006) posited that local market relationships in value chains have qualities and attributes that can be leveraged for competitive advantage, such as distribution, transport and handling that can contribute to cost reductions, quality improvements (i.e., product, process and logistics innovation), and reducing exposure to risk. At the buyer and consumer level of the local market where methods for “shortening the food links” connecting farmers
with food service buyers in Colorado, United States were explored, Starr, et al. (2003) found that price was not a significant factor in purchasing decisions. In addition, they found that:

- food buyers prioritize quality as their top purchasing criterion but are not aware that local farmers can provide higher quality
- institutions were interested in buying locally, and that small farms could offer comparable or higher quality produce and service, and
- farmers need to show buyers the quality of produce and service they can provide

In Canada, Feagan, et al. (2004) carried out a survey on customers of three Niagara region farmers’ markets and noted that socioeconomic and cultural factors such as the importance of food freshness, support of local farmers and the local farm economy, and social interaction were key expressions of people’s support and interest in farmers’ markets. Brown (2003) found that the most important factors when purchasing produce were quality and freshness, and that most consumers perceived of higher quality and lower price. Lastly, Halweil (2002: 48) emphasises that producers and food businesses should capitalize on competitive advantages of the local food system over the industrial food system by marketing local products stressing quality, freshness, price competitiveness, and detailed information on how and from whom the food was produced and processed.

Social Enterprise

Social enterprise is a component of the social economy. The social economy refers to business initiatives that are not a part of the public economy, or the traditional private sector. “A social enterprise is a specific business that produces goods and services for the market economy, but manages its operations and directs its surpluses in pursuit of social and environmental goals (WEDC 2005). It is characterized by enterprises and organizations that are autonomous and private in nature, but where capital and the means of production are collectively held (Neamtan, 2005). Other components of the social economy include cooperative development and community economic development” (Barbolet, et al. 2005: 30). In creating a re-localized food system, social enterprises can be an important component for initiating new or developing stronger economic relationships between local producers, buyers, and consumers.

Barbolet, et al. (ibid.) explored how the food system in Vancouver, B.C., might be transformed through proactive, communal economic development and the promotion of
policies that build food system sustainability. Their report suggests that social enterprise, when it’s coordinated with initiatives to regenerate local food production and processing, creates opportunities for a sustainable food system. Though food-related social enterprises exist in Vancouver, their number is small and consists mostly of catering services, coffee bars and cafés working independently of one another, rather than in some highly coordinated fashion. Additional research, conducted by the Small Scale Food Processors Association in 2002, identified a strong demand for locally produced, high-quality food and beverages, as well as an opportunity through collective effort to surmount the barriers and challenges to meet local market demand. This demand is evident when one considers the growth and popularity of Vancouver’s farmers’ markets, the success of organic food-delivery services, and the growth of storefronts that feature organic and local products.

According to Barbolet et al. (ibid.), creating a social economy requires a social and political redesign of the entire food system, in order to take advantage of the market demand for local food. Political redesign can occur through social advocacy. Economic redesign can occur as values-based institutions help build the required infrastructure. Therefore, social-enterprise-building activities offer a potential shift away from commodity exports and toward localized food systems. Social-economic strategies are important tools to facilitate the social and economic change required to ensure long-term food sustainability. Opportunities that support the development of a social-economy and therefore, the scaling up and out of small-scale, alternative production and distribution of food systems include building assets through community economic infrastructure and leveraging existing resources; building food-sector enterprises and financial capital/equity, including increased public/private partnerships; and, building human capital that fosters training and opportunity development in the food industry.

**Food Democracy**

According to Hassanein (2003), tensions exist regarding the potential for the alternative agro-food movement to create meaningful change in communities and economies. Individual and organisational actors working incrementally to transform the dominant food system have, over time, been shown to be inadequate in terms of forging food-system sustainability when compared to those measures deemed necessary by alternative agro-food movement actors and analysts. Thus, given the degree of diversity in terms of organisational forms and strategies, coalitions or collective action in the form of food-
democracy may offers a more practical utility in taking advantage of opportunities and overcoming barriers for transforming the agro-food system. Lang (1999b) developed the term food democracy by arguing that the agro-food system is ultimately both a symptom and a symbol of how the citizenry through political engagement organizes themselves and society, representing “a microcosm of wider social realities” (Lang 1999b: 218). The political pressure to greater access and the collective benefit from the food system for food security is a microcosm reflecting “a titanic struggle between the forces of control and commodification, and the pressure to democratize the structure of capital and decision-making. Bonanno (1998: 239) maintains that for the agro-food sector, the mobility of capital in a globalized economy “signifies an increase inability of the State to implement emancipatory agro-food programs and to control the actions of transnational corporations…the scope of action of global actors remains broader than the political instruments available to citizens to control them.”

Food democracy is about the empowerment of citizens through social movements to engage, transform, and determine agro-food policies and practices locally, regionally and globally. Thus, to distinguish collective action from the incrementalism and a crisis of lack of representation noted above, collective action and its outcomes is the result of strategic collaboration that effectively integrates aims, beliefs and decision-making in affecting social change. Lockie (2002) understands these coalitions as networks of food producers and consumers. In contrast to the predominant food-production and delivery system, Hinricks (2000) notes that direct marketing creates opportunities for new kinds of social relations around food, because the social and geographic context of a direct-marketing event, such as a neighbourhood social, becomes part of the product for sale. DeLind (2002) and Lyson (2000) concur, adding that the context of locally produced food is sensitive to the social and demographic characteristics of each local community. The counter-trend toward promoting local forms of agriculture (i.e., “civic”, or urban, peri-urban agriculture) is often deemed more sustainable and more sensitive to the needs of local consumers. Local and regional markets can play a major role in shaping the viability of farms, thus underscoring the importance of place (Lobao and Meyer 2001; Lyson and Gillespie 1995). According to DeLind (2002) and Lyson (2000), communities with localized food systems can gain greater control over their economic destinies and enhance their level of socioeconomic well-being, revitalize rural landscapes, improve environmental quality and ultimately, promote long-term sustainability. In addition, localized food systems tend to nurture economic development, maintain diversity
and product quality and provide forums where producers and consumers can come together to solidify social bonds.

Lyson and Green (1999) claim global and local food-system models represent contrasting socioeconomic paradigms, or opposing worldviews of the true and proper relationship between economy and society. The marketability associated with the global-food system complicates social inclusion and inhibits the viability and the development of local-food systems (Hinrichs 2000). Dahlberg, et al. (1996), and Koc and Dahlberg (1999) propose alternatives that can be incorporated into the community landscape, such as the building of local markets, community gardens, food-policy councils; food-system-advocacy groups; and, finally, a community-supported agriculture system. Gilg and Battershill (2000) explore the symbiotic relationships between producers and consumers found in a local food system, as well as the direct marketing and ecological farming practices associated with it. Relationships built on trust and social connectedness characterizes direct agricultural markets (Campbell 1997; Feenstra 1997; Hinrichs 2000; Lacy 2000). The tendency to treat food purely as a commodity is diminished where social connections are strong and sharing relationships prevail (Welsh and MacRae 1998; Guthman 2002). The growth of face-to-face transactions stimulates the development of markets, in the form of oppositional sites to the mainstream food industry within a region (Sage 2003).

Knowledge, Access and Mediation between Producers and Consumers

One of the primary benefits associated with the localizing of food systems concerns the increasingly direct flow of information between producers and consumers as distance between the principal players in the food system decreases (Princen 1997; Marsden et al. 2000). Unfortunately, a large distance between producer and consumer decreases the exchange of information about the ecological costs of production (Dahlberg and Jansson 1989). The food-oriented knowledge of those people involved directly in the food system may be greater in a more localized food system, as their confidence in food quality and its value approaches some optimal condition (Marsden et al. 2000): possibly a condition similar to that wrought between consumers and producers in a direct, highly localized, farmers’ market relationship. The geographical distance between producers and consumers tends to increase their level of social distance from each other, obscuring the consequences of their independent decisions (Princen 1997). In a more industrialized scenario, food-system actors, and in particular consumers and producers, find it increasingly difficult to understand
the food system and the larger scale effect of their choices because “space has become increasingly compressed in food chains” (Hendrickson and Heffernan 2002). Tightening the feedback loop between production and consumption is, therefore, important for achieving sustainability (Levin 1999) and, therefore, the success of a localized food system.

In a localized food system, consumers are required to participate in deliberate and socially responsible ways, to a greater degree than the predominant food system demands (Morgan and Murdoch 2002). In fact, Goodman and DuPuis (2002) suggest that the ways in which consumers become knowledgeable about the multiple aspects of food is at least as important as producers’ knowledge about the creation of localized food systems. The success of alternative agriculture and its role in localized food systems relies on the ability of consumers to mediate information regarding food (Lockie and Kitto 2002). Intentional consumer choices affect behaviour within the economic system (Allen and Kovach 2000).

The challenge for a local food system is to “shorten” the distance between producer and consumer with regard to information transmission. Marsden et al. (2000: 425) argue that information embedded in a product, such as food, “enables the consumer to confidently make connections and associations with the place/space of production, and, potentially, the values of the people involved in the production methods employed. For example, Raynolds (2002) explains that labeling endows food with embedded information, and can differentiate food from otherwise similar products in an impersonal marketplace, possibly creating an authentic brand name identity and consequently heightening its demand. A distinguishing identifier (such as a label) can be valuable in a market where information is scarce and where alternative growers are generally perceived to occupy the moral high ground (Sage 2003). According to Morgan and Murdoch (2000), labeling can reassure consumers about particular product attributes, building trust and reliability between producers and consumers: “The successful translation of this information allows products to be differentiated from more anonymous commodities and potentially to command a premium price if the encoded or embedded information provided to consumers is considered valuable.” According to Gilg and Battershill (1998), acquiring deeper, broader levels of

67 For Marsden et al. (2000), “embedded” information suggests that a food provides information readily available to the consumer. For Allen and Kovach (2000), information is embedded in food, but this information can be concealed.

68 From a knowledge-systems standpoint, the most significant of these limitations is the level of consumer knowledge. Gilg and Battershill (1998), caution that consumers are remarkably undiscerning in food purchases, and that they trust retailers and marketing. Allen and Kovach (2000) suggest that this can lead to co-optation of alternative food by larger scale economic interests, encouraging the production of “organic” food by otherwise conventional means.
consumer knowledge and awareness is the best way to combat the “branding” phenomenon, and the increased interaction that comes from direct purchasing between producers and consumers is the strongest means of reinforcing this knowledge for consumers.

Summary

Since the end of the Second World War, industrialized food systems have fostered a ubiquitous pattern of production, leading to the concentration and integration of consumption through a confluence of factors, including economic efficiency, product and process standardization, entrenched agricultural policy and a narrow focus on an international marketplace. Certainly, industrial agriculture—and the food system that supports it—has played a critical role in feeding an ever-increasing world population, as well as in satisfying a demand for food staples and exotics. This food-production system also possesses an unprecedented capacity for crisis intervention in the incidence of natural disasters or widespread famine. Yet, these same large-scale farming and production processes have caused much destruction and created many problems on an environmental, social and economic level. Among the problems associated with industrialized agriculture are the devaluing of the individual producer, retailer and farm labourer; the standardization of agriculture processes and practices; the multidimensional distancing of food-system actors; the devaluing of local natural and productive resources; and, negative impacts on rural economies and communities.

In contrast to industrialized agriculture, localization means a reduction in physical and perceptual distances between the modes and methods of production and consumption. Compared to the globalized food production and delivery format, localization is an integrative, systems approach to food and agriculture. As well, a localized food production and distribution system requires coherent policies from which to make the stewardship and regional interrelationships of social, economic and ecological capital both operable and sustainable. Local food-system strategies reflect a growing dissatisfaction with the conventional food system and the need for a more collaborative systems approach, in every stage of the process, from farm inputs to nutrient cycling. The localization of food is not meant to replace global trade or to create a situation of economic isolation, but to address
seemingly inherent vulnerabilities in the industrial model. Such a holistic perspective, however, is discouraged within the current neoclassical economic paradigm.

A new vision of food wholeness and health as part of a planning agenda requires a fundamental respect for biodiversity, cultural diversity and the viability of social health. The foodshed approach, food security, community-supported agriculture, farmers’ markets and social-enterprise initiatives were briefly explored to show the presence of viable alternatives, and the evidence of the general public’s desire for change. As forms of community development and social enterprise, these alternatives offer the potential for strengthening the regional economy, by rooting businesses in the social and physical landscape. The objectives and intentions of sustainable, local food-system initiatives are then reflective of the broader demands and imperatives of society, rather than the narrow demands of an inaccessible, powerful few. Such a restructuring of society occurs by developing new relationships to food, and eliciting notions of trust grounded in more direct and intimate business relationships and social exchanges. In such a scenario, marketing strategies can be designed to develop symbiotic relationships between production and consumption, while new social relations, sensitive and contextualized to the demographic characteristics of the local community, allow food to become acknowledged, and acquire value-added attributes. As distance decreases, the exchange of knowledge and information may be more direct and effective, making it more difficult to obscure irresponsible actions and processes. In a transparent-market environment, people will be better able to mediate information embodied in food, make connections and associations to food and successfully translate that information in order to differentiate value-added local food from that which is embedded with anonymity.
CHAPTER 3: A THEORETICAL AND INTERPRETIVE FRAMEWORK

This study seeks to provide insights—from a complex systems perspective—into the interrelationships between food security and the Lower Mainland horticultural supply chain. From a systems perspective, producers, consumers and buyers do not operate in isolation from one another, and decisions and choices—real or perceived, local or distant, sanctioned or informal—are multidimensional and dynamic. Information that flows back and forth among producers, consumers and buyers affects the kinds of relationships society has with food and, by extension, agriculture. Grounded in an agroecological theoretical framework, this study seeks to understand the problem within the context of ecological systems and social processes, boundaries and the “systems of knowledge, values, technology, and organization” that are intimately intertwined with one another (Norgaard and Sikor 1987: 25). Because it is couched in an agroecological framework, this study is also a critique of the neo-liberal economic forces that have come to dominate the direction and outcomes of the agriculture and food systems we have come to depend upon for our cultural, biophysical, spiritual and intellectual nourishment. Self-reliance in socioeconomic systems has its analogue in natural systems. Generally, as a part of natural processes, energy is captured or expended as close to the point of origin as possible (Meeker-Lowry, 1988: 167). The remodeling of agroecosystems has been based on the creation of self-reliance and the trading of surpluses as domestic needs have been met (EAP 1997). Thus, re-localization and self-reliance, wherein local economies produce and market food closely linked to socio-geographic place, correlate well with the conceptual understanding of agroecology.

In fairness to the subject at hand, I will readily acknowledge my own personal biases: I bring a set of values, beliefs and assumptions that influence my perspective and, therefore, affect the interpretation and direction of my research (LeCompte and Schensul 1999). Therefore, how I understand and approach the problem, or the fact that I see a “problem” at all, stems from my own perspective; for some this research may be an exercise in futility, but for far more people it will provide insight. For the benefit of all readers, this chapter is an attempt to clarify the theoretical and interpretive framework used in this study.
The Foundations of Agroecology and Agricultural Industrialism

The theoretical foundation of agroecology is systems theory and the principles of ecology. Agroecology offers insight into the relationships between human stewardship, the ecological health of the land, the role of food in human health and culture, and the degree that human food systems mimic natural ecosystems (Altieri 1995, Gleissman 1998a, 2001). In other words, an agroecological perspective allows one to consider a “multifunctionality” of agriculture, meaning that, beyond food and fibre, agriculture has other functions that provide goods and services (Dobbs and Pretty 2001). These goods and services are ecological and socioeconomic in nature, and have consequences for production and consumption that are expressed locally and globally (Dobbs 2004: 76). Moreover, agricultural systems are understood as microcosms of natural ecosystems, involving issues of food production, distribution, consumption, biodiversity and nutrient cycling being a reflection of system dynamics.

The way in which an agriculture-and-food system operates will determine if it can be indefinitely maintained or be a habitual appropriator of natural, economic and social capital within and beyond its boundaries (i.e., whether such a system is sustainable or unsustainable) (Holdren, et al. 1995). Table 3.1 provides a comparison between the premises of agroecology and agricultural industrialism. There, their respective premises show why an agricultural system is or is not congruent to its system boundaries and, therefore, sustainable. The difference between these two systems also influences the organization of agricultural resources and economy, determines what research receives funding and who profits from its application, and to whom and by whom food, health and nutritional information is communicated.

According to Gleissman (1998b), all sectors of the food system can become more sustainable if the socioeconomic forces that drive it operate from a foundation of ecological knowledge. Well-established ecological qualities and systems-theory attributes, such as cyclical relations, limits, commensalism, complexity, resilience, functional diversity, thresholds and self-maintenance provide a rich framework from which food-and-agriculture systems, and, therefore, food security can be understood. Agroecology adopts these qualities and attributes and identifies them in the more or less tangible state; agricultural systems and their “parts” are interconnected and embedded within a complex
communication process, featuring an exchange and distribution of energy, material and information that drives and regulates the function and structure of these systems.

<table>
<thead>
<tr>
<th>Agriculture Industrialism</th>
<th>Agroecology</th>
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<td><strong>Atomism:</strong> systems consist of unchanging parts and are simply the sum of their parts.</td>
<td><strong>Holism:</strong> Parts cannot be understood apart from their wholes, and wholes are different from the sum of their parts. Parts might evolve new characteristics or totally new parts can arise.</td>
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<td><strong>Systems:</strong> Mechanistic. The relationships between parts are fixed, systems move smoothly from one equilibrium to another and changes are reversible.</td>
<td><strong>Systems:</strong> Might be linear/mechanical, or they might be deterministic, yet not predictable or smooth, because they are chaotic or simply discontinuous. Systems can also be evolutionary.</td>
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<td><strong>Universalism:</strong> Diverse, complex phenomena are the result of underlying universal qualities that are few in number and unchanging over time and space.</td>
<td><strong>Contextualism:</strong> Phenomena are contingent upon a large number of factors particular to the time and place. Similar phenomena might well occur in different times and places due to widely different factors.</td>
</tr>
<tr>
<td><strong>Objectivism:</strong> We can stand apart from what we are trying to understand.</td>
<td><strong>Subjectivism:</strong> Social and most “natural” systems cannot be understood apart from our activities, our values and how we have understood and hence acted upon these systems in the past.</td>
</tr>
<tr>
<td><strong>Monism:</strong> Our separate and individual ways of understanding complex systems are merging into a coherent whole.</td>
<td><strong>Pluralism:</strong> Complex systems can only be known through multiple and different patterns of thinking, each of which is a necessary simplification of reality. Different patterns are inherently incongruent.</td>
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The tangibility of a particular food system is evident, for example, in our current industrial agriculture processes which tend to provide diminished nutritional quality and taste in the food we eat, reduce the socioeconomic health of rural communities, potentially creates transgenic pollution, increase the price-disparity between conventional and organic food, promote corporate consolidation of food processing and distribution, marginalize farmers, foster the loss of prime agricultural land to urbanization, omit or resist nutritional labeling efforts, pollute water, lead to malnutrition and the prevalence of dietary diseases and ultimately encourage the growing popularity of farmers’ markets and organic food. In contrast to agroecology, agricultural industrialism simplifies complex agricultural systems through compartmentalization, linearity, universality, mechanism and objectivit. It imposes control on natural processes through technological means, in order to overcome nature as the limiting factor of production, while eliminating spatial boundaries that delineate what is internal and external to a system, in effect, making its agroecosystem the world (Gleissman 1998b).
Gliessman (1998b) describes three consecutive and concurrent stages of transition to a more ecologically sustainable agriculture system: efficiency, substitution and remodeling. Efficient agricultural systems “reduce both resource waste and environmental impact; environmentally sensitive management and technologies replace more harmful inputs and practices at the substitution stage; and, ecological qualities become the template for remodeling agricultural systems.” Moreover, since agroecology is concerned with the socioeconomic system and the agricultural system, it requires a “co-evolutionary” perspective in order to understand the interaction between the two systems (Norgaard and Sikor 1987). Socioeconomic systems are “made up of systems of knowledge, values, technology, and organization” that interact with one another and with ecological systems (ibid. 25). Agroecology, in its broadest sense, is concerned with the embedded and synergistic relationships between the social, economic and ecological components of an entire food system. By integrating ecological and socioeconomic dimensions of agriculture-and-food systems, agricultural systems co-evolve, over time, as they undergo a transition and transformative process. Therefore, agroecology can provide insight into alternative approaches the challenges confronting agri-food systems, and can contribute to the development of more sustainable societies for the future (Francis et al. 2003, in Thompson 2003; Hill 1992). The re-localization process represents an important concept for the framework for this research, and my consequent understanding of agroecology as integral to food security. As such, the concept of re-localization offers an alternative means of integrating ecological and socioeconomic concerns into agriculture and food systems.

### An Interpretive Framework

The interpretive framework allows for a normative consideration of research findings to generate new knowledge tempered by the researcher’s unique perspective and methods of analysis and interpretation. Hence, the researcher develops an alternative perspective to the dominant worldview. Table 3.2 provides a comparison of two worldviews, the expansionist and ecological, that best captures the contrasting worldviews articulated throughout this research. This study is predicated on a problem facilitated by trade liberalization: the concentration of corporate, multinational control of the processes and ownership of global food and agricultural production. These forces, in turn, have helped to create a local market food systems dependent on agricultural industrialism and the availability and accessibility to extra-regional food products, thereby increasing the economic challenges for local food producers and buyers in their efforts to be competitive. Unregulated free trade, or trade
liberalization and its entire supportive economic, technological, social and political structure, are both an outcome and measure of the expansionist worldview.

Table 3.2 Beliefs, Values and Assumptions of the Expansionist and Ecological Worldviews. Source: Rees (1995)

<table>
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<tr>
<th>Beliefs, Values and Assumptions about Nature</th>
<th>Beliefs, Values and Assumptions about the Human Economy</th>
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<td><strong>Expansionist Worldview</strong></td>
<td><strong>Ecological Worldview</strong></td>
</tr>
<tr>
<td>Nature is valued as a source of inputs to the human economy (production value) and a sink for wastes from the human economy. If natural resources become scarce or depleted, human innovation will create substitutes. The economy can be dematerialized with improvements in economic and technological efficiency. No limits to regional or global carrying capacity, trade frees human populations from constraints of local ecosystems, dematerialization of the economy will overcome any apparent limitation imposed by local or global carrying capacity.</td>
<td>Nature has intrinsic worth. Human communities are contained by and dependent upon ecosystems. Natural resources and manufactured capital are not infinitely substitutable; natural resources are often a prerequisite for, or a necessary compliment to, manufactured capital. Carrying capacity is finite; trade appears to increase local carrying capacity, although in reality most forms of trade deplete global carrying capacity.</td>
</tr>
<tr>
<td>Beliefs, Values and Assumptions about the Human Economy</td>
<td></td>
</tr>
<tr>
<td>Human economy is separate and independent from Nature. No constraints exist on economic growth. Economic growth will improve economic and technological efficiency, which will de-materialize the economy, improve incomes, improve material well-being and equalize global inequalities. Deregulation of trade in global markets is advocated to increase economic growth. GDP and GNP are adequate measures of welfare.</td>
<td>Human economy is contained by and dependent on Nature. Human economy must live on natural income and preserve natural capital stocks. Potential efficiency gains through economic growth will not de-materialize the economy quickly enough to avert significant and perhaps irreversible ecological damage caused by the rapid depletion of resources and dumping of wastes. Economic activity is constrained by moral responsibility to Nature and human communities. GDP and GNP are inadequate measures of welfare because they do not consider distribution of wealth, social well-being and ecological health. Deregulated free trade, its current form will exacerbate international income disparities and further deplete natural resources.</td>
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From the perspective of food-and-agricultural systems, the expansionist worldview supports a growth-oriented, deregulated global free-trade economic system in which the vision for agriculture is a “globally integrated economy where all regions of the world engage in the production of specialized agricultural commodities” for the global marketplace (Shrybman 1999: 45). In addition to the risks and weaknesses regarding the reliability and affordability of food under agricultural industrialism, a global marketplace allows the following conditions and outcomes to prevail:
• diminishing returns to primary food producers and a growing disproportionate share of each highly subsidized food dollar;
• concentrated or consolidated corporate ownership and management;
• control over production technologies and their intellectual ownership;
• technological delimitation of agricultural crop species and cultural food diversity;
• a highly capitalized distribution and production system dependent on ecologically destructive and politically hypertensive petroleum resources;
• the imposition of rules and regulations on smaller producers, such as processing, grading and bio-safety protocol and traceability measures (that are a response of system failures of agricultural industrialism and likewise suitable for highly capitalized, industrialized systems).

What remains wanting is an understanding of the potential for local food-system stakeholders to contribute to a self-reliant local food system, and therefore, the potential for balancing global and more local food sourcing. Food self-reliance would be an outcome of a dynamic balance with global food-market access.

Considerations on Interpreting “local”

In the process of altering a system of food production and distribution, a broad range of stakeholders—both inside and outside the system—must be taken into account. Current food systems “extend far beyond the farm and involve the interaction of…farmers, researchers, input suppliers, farm workers, unions, farm advisors, processors, retailers, consumers and policymakers” (Allen 1993: 12). Allen (ibid: 12) defines food systems as “agriculture or the production of food functions at the intersection of society and nature” and views such a system as but one component within a more complex food system. According to Goreham and Stofferahn (2001: 21), a food system has the following components:

• production processes and inputs;
• food distribution;
• food preparation and preservation;
• food use and consumption;
• recycling and disposal of food wastes; and,
• various agricultural and food-support services necessary for the system to operate, including marketing, transportation, distribution, storage and governmental systems.

The concept of a local food system carries different meanings depending on the group or individual defining such boundaries. Kneafsey et al. (2003: 2) define “local” as that “which is produced, processed, sold and/or consumed in the region.” Working Group on Local Food (2003: 3) characterizes local as that which is, “produced, processed, traded and sold within
a defined geographic radius, often 30 miles.” Hendrickson and Heffernan (2002) assert that a local food system is in “a particular locale, in a particular set of cultural, economic, political and social relationships.” Goreham and Stofferahn (2001: 19) see local as it relates to “the polycentricity of the system” and emphasize “proximity rather than a certain size of the area,” where fixed boundaries do not exist and where “regions can overlap.” Brown (2003), in his study of consumer perceptions toward the purchase of local organic food, found that consumers considered “locally grown” a narrow, regional concept that could venture across political boundaries. Guptill and Wilkins (2001: 49) discovered among U.S. respondents that a 48-kilometre radius (30 miles) was characterized as “local”. However, the significant reasons respondents gave for creating such definitions included the following:

- to denote proximity as an indicator of freshness;
- to identify products considered part of the local economy;
- to make connections between customers and local producers; and,
- to define the locality in terms of the area from which the store draws customers.

MacKinnon and Smith (2006) found that, with lifestyle and seasonal adjustment—especially in the first two months of their “100-Mile Diet”—they grew fond of a diverse and healthful diet of meat, fish, fruit and vegetables, all produced, raised or caught within 160 kilometres of their home in southwestern B.C. At the same time, MacKinnon and Smith (ibid.) relinquished shopping at supermarkets, and consequently established meaningful social and market relationships with the local people and entrepreneurs who produced their food. Many levels of diversity are inherent in local food systems, as are the differences in each system’s climate, geography and natural resource base. Similarly, local food production involves a wide range of unique cultivation methods that respect existing ecological and cultural conditions and determine appropriate farming practices accordingly.

The process of food system re-localization challenges the dominance of the globalized food-supply system from a precautionary and prudent perspective, and takes into account, agri-environmental and agri-social multifunctional issues. Within this ecological and social-spatial context, re-localization fosters the consideration of issues of local food security, food safety, self-reliance, and agroecology in light of the dominant system’s weaknesses and vulnerabilities. Thus, the goal of re-localization is not to eliminate trade, but to discover a balance between production and consumption from local and global sources while limiting the negative social, economic and environmental consequences of globalization. Food self-reliance suggests a society willing to consider the possibilities of international trade and
describes the maintenance of an optimal level of domestic food production, while that community generates the capacity to import from the world market as needed (Konandreas 2004). Panagariya (2002) describes self-reliance as the ability to survive with most of the energy and material for survival provided locally, and the remainder obtained through trade with other communities.

The act of importing a commodity generally implies that it can be procured from abroad more cheaply than it can be produced domestically and, conversely, it implies that the region is not capable of producing the necessary commodities at all. A couple of important qualifications are necessary in order to rely on such a dual, import/self-reliant, strategy: the first case to consider concerns import capacity, which is the ability of countries to produce other goods and services to secure through trade the foreign exchange they need to import food. The second case concerns the reliability of the world market as a source of affordable food supplies, and how that market may be affected by trade liberalization (FAO 2004a). In the first instance, developing countries, struggling socioeconomically as a result of trade liberalization and market restructuring—and under the threat of heavy financial penalties from the World Bank and International Monetary Fund—could lose their internal capacity to feed themselves by abdicating their most fertile lands and processing facilities to multinational companies focused on agricultural export. In this situation, loss of original food-and-agriculture self-reliance is surrendered by the sudden “need” for trade in international markets to earn foreign exchange to pay for the food resources they once produced for themselves.

Trade has become an essential component of modern food-security strategies. Trade may contribute to food security in a number of ways: it augments domestic supplies to meet consumption needs; it can reduce supply variability; it supposedly promotes economic growth in some economies; and, under the social construct of comparative advantage, it supposedly permits global production to take place in the most suitable regions. McDonald (2006) questioned the logic of local in his argument that the benefits of buying [strictly] local may be outweighed by cost to other parts of the world; that global agricultural efficiencies benefit the economies in both developed and developing countries. However, reliance on trade may also bring some risks. These include the uncertainty of supplies and world-market prices for food products and energy (Konandreas 2004), a factor that can have a profound effect on the availability and affordability of food from a world marketplace. Other
Weaknesses in the reliability and affordability of food from an unregulated global marketplace include labour and social unrest; human, plant and animal diseases; climate change; national security; and competition for scarce resources such as water. In developed countries, the dependence upon affordable food from elsewhere is compounded by the loss of agricultural capacity at home: prime farmland lost to urban development, community-scale to industrial-scale agriculture and loss of farming as an admirable vocation and way of life to name a few examples.

The methods and means by which food arrives on our plate are the result of the communication of information, as well as the ability of producers, consumers and buyers to interpret and understand the value and meaning of the information from which food-selection decisions and choices can be made. Information is both a tangible and intangible medium that flows between producer and consumer, and food decisions have consequences that are reflected in the way society produces food and in how society values the food it assimilates into its evolving function and structure. This research highlights market linkages between producers and buyers and explores their common interest, or lack thereof, in enhancing or creating local market relationships with each other. Moreover, the effort to uncover linkages between producers and buyers may contribute to a better understanding of the connection between a viable local agriculture system and improved food security.

**Summary**

This chapter examined the theoretical and interpretive framework embedded in this research as it seeks to provide insight, from a systems perspective, into the interrelationships between food security and the Lower Mainland’s horticultural supply chain. Couched in an agroecological theoretical framework, this study seeks to understand the problem within the context of ecological systems and social processes, boundaries and systems of knowledge, values, technology and organization that are intimately intertwined with one another. At the same time, this study acts as a critique of the neo-liberal economic forces that have come to dominate the direction and outcomes of current agriculture-and-food systems. The interpretive framework allows for a normative consideration of research findings to generate new knowledge, tempered by the researcher’s unique perspective, and methods of analysis.
and interpretation. Hence, the researcher develops an alternative perspective to the dominant worldview.

The theoretical foundation of agroecology is systems theory and the qualities of ecology. Agroecology offers insight into the relationships between human stewardship, the ecological health of the land, the role of food in human health and culture and the degree that human food systems mimic natural ecosystems. Agroecology is concerned with the socioeconomic system and the agricultural system. It requires a “co-evolutionary” perspective to understand the interaction between socioeconomic and ecological systems. Socioeconomic systems are “made up of systems of knowledge, values, technology and organization” that interact with one another and with ecological systems. “Re-localization” is a concept to integrate ecological and socioeconomic dimensions into agriculture-and-food systems. The goal of re-localization is not to eliminate trade, but to discover a balance between production and consumption from local and global sources, while limiting the negative social, economic and environmental consequences of maintaining such a balance. Alternative agriculture-and-food strategies are at least partly based on the creation of self-reliance and the trading of surpluses once domestic needs have been met.

How food arrives on our plate is the result of the communication of information, as well as the ability of all the food-system stakeholders to interpret and understand the meaning of the information to make food-system decisions. Patterns of food production, distribution, consumption, biodiversity, energy use and nutrient-cycling phenomena emerge from the interaction between stakeholders in the local market system. The local system is essentially nested within a larger, global system; thus, these two “systems” interact and exchange information, materials and energies that contribute either to the degradation or regeneration of the respective system and subsystem. From a social, ecological and economic standpoint, these relationships may have a more direct local impact than they would when such market relationships are extensive and predominantly global. This study hopes to provide insight into the extent to which local horticultural buyers and producers are aware of, and interested in, the boundaries and interrelationships within the Lower Mainland of British Columbia.
CHAPTER 4: RESEARCH METHODS

This chapter describes the methods by which I conducted my exploratory research for this study to examine barriers and opportunities to a more self-reliant horticultural supply chain system in the Lower Mainland of B.C. I employed a case-study approach with a semi-structured interview process with buyers and producers. The interviews with producers and buyers proceeded as initially envisioned, the results of which will be detailed in the presentation of findings in Chapter 5. In the sections that follow, I describe in detail the methods employed.

Case-Study Methodology

I chose to use a case-study methodology because this research approach is ideal for a holistic, in-depth, qualitative investigation (Feagin, et al. 1991). The case-study methodology can reveal details about the problem under investigation from the viewpoint of the study participants (Tellis 2001). This methodology is appropriate for this study because it helped to construct a local narrative built on the experiences of the stakeholder or participant in question. For this study, these viewpoints and personal experiences were gathered from a defined set of food-system stakeholders within B.C.’s Lower Mainland. Together, these viewpoints described various stakeholder relationships within the context of trade liberalization, and they clarified the forces that help create a local market system dependent on availability and accessibility to extra-regional food products. Accordingly, in order to understand the qualitative relationships between local food-system actors involved in food purchasing and production, it was necessary to understand what each stakeholder deemed him or herself capable of in terms of contributing to an interdependent local food system. As such, I employed the case-study methodology to develop a story about the food system in the Lower Mainland that would involve several representatives within the local food system that could reflect the experiences and aspirations of the larger group.

I used the case-study approach to allow issues relevant to the stakeholders to emerge. The combination of locally relevant, statistical and qualitative data, and the information provided by semi-structured, open-ended interviews offered an opportunity to explore the interest of local producers and buyers toward expanding existing market capacity, in order to foster greater food self-reliance and, by extension, food security. Purposeful sampling, or the
systematic selection of participants, was used to capture a representative population and to allow reflection on the range of variation within a relatively small sample size. Maxwell (1996) suggests that purposeful sampling may be required to sufficiently reflect the depth offered by a typically larger sample size, because relatively less data may be available concerning any particular sampling unit. However, a smaller sample size could provide an opportunity to conduct an exploratory study across a range of food-system participants within a relatively large geographical area and a short time period. As a result, the data and personal experience from a qualitative study could contribute to producing a working hypothesis applicable to future qualitative and quantitative research.

This study was exploratory in nature because I attempted a study which, to the best of my knowledge, had yet to be accomplished. It is a study that takes into account the socioeconomic relationships that shape the horticultural crop production and purchasing patterns in B.C. and, in particular, the Lower Mainland. I wanted to explore how those relationships may affect the potential for achieving balance between local and global sourcing of produce.

**Other Case-Study Types**

Yin (1994) has identified at least three different specific types of case studies: exploratory, sometimes used as a prelude to social research; explanatory, for causal investigations; and, descriptive, requiring a descriptive theory to be developed before beginning research (Tellis 2001). Stake (1995) identifies three other types of case studies: intrinsic, when the researcher has an interest in the case; instrumental, when the case is used to understand more than what is obvious to the observer; and collective, when a group of cases is studied simultaneously and individually.

Case studies can be single-case designs, used to confirm or challenge a theory, representing a unique, extreme or revelatory case where an observer may have access to a phenomenon that was previously inaccessible; or, they may be multiple-case designs, where each case study consists of a whole study in itself. Geographically, case studies can be conducted at a single location or at multiple sites (Tellis 2001). Yin (1994) presents four alternative applications for a case-study model: First, a case-study model can be used to explain complex causal links in real-life events or issues; second, it can be used to describe
the real-life context in which the event or issue has occurred; third, it is relevant for describing the event or issue itself; and fourth, such models are valuable for exploring those situations in which the event or issue that is being evaluated has no clear set of outcomes.

Marketing Channels: Defining Buyers and Producers

In order to establish the best possible means for conducting interviews within the Metro Vancouver region, Fraser Valley Regional District (FVRD) and the City of Vancouver, I thought of the local food system as coherently structured, with discrete and clearly identifiable categories of stakeholders. For the purpose of this thesis, I categorized those stakeholders as follows: farmers (in this case, of horticultural crops), institutional food service providers at schools and hospitals, green grocers, supermarket managers, home-delivery service owners, restaurant managers and food wholesalers and brokers. Buyers differentiated themselves competitively according to the agri-food product associated with them, their clientele, their degree of access to food and information, the services they provided, the prices they set, their agri-food product variety and the shopper convenience they provided. Collectively, these groups represented the buyers of food products in the City of Vancouver and food producers who marketed a proportion of their horticultural products from the Metro Vancouver region and FVRD. These buyers were people and places of business that purchased—either directly or indirectly—food for preparation, resale, or to otherwise distribute as their primary business function.

In order to understand and to have a relevant discussion about the source of food produced, bought and sold in Vancouver, I needed to understand the structure, function and intent of the global and local food market systems. Thus, I needed to develop a broad knowledge about agriculture in B.C., specifically regarding local production, local markets and local food consumption. To further my understanding, I conducted a literature review of relevant market and agricultural documents and conducted 39 open-ended, semi-structured interviews of local food-system stakeholders.

Distinctions between Conventional and Alternative

It is important to understand the distinction of the terms conventional and alternative used in this study, the definitions of which made up the framework of how respondents were
selected and categorized. First, the purpose of this research alternative buyers and producers are not synonymous with organic, though organic production is an alternative production system. It is just one of many alternative production systems. By the same token, conventional producers can and, in some instances, do engage in select characteristics of sustainability. From a systems perspective engaging in a few characteristics, however, does not qualify it as an alternative system.

The primary distinctions that characterize conventional and alternative in this study are that alternative production tends to be ecologically based, small scale and not dependent on outside inputs. Besides the production component of a farming operation, producers also distinguish themselves by their current marketing channel arrangements and priorities. For instance, alternative includes direct marketing and other entrepreneurial marketing strategies, engaging in ancillary enterprises such as tourism and food processing, and a production system that supports economic and social viability while preserving high – not maximum – land productivity. A conventional producer is one who is not entirely dedicated to alternative methods but relies on one or more of the following: an industrialized agriculture model characterized by large scale mechanization, operates predominantly within mainstream (e.g. global) marketing channels, relies on monoculture cropping methods, and has a business model intent on maximizing production and profitability.

In terms of buyers, alternative and conventional distinguishable primarily by the focus of their business model as it relates to the delivery of their food services and how they market themselves to their clientele (consumers). This distinction becomes self-evident through a number of marketing devices such as advertisements, phone book category, word-of-mouth and simple observations such as their business name. The distinction is further revealed by their supply channel arrangements and relationships. Alternative buyers may not necessarily buy into or adopt a producer’s business rationale or philosophical framework, but generally they do want to support and provide a venue – and a menu – for alternative food producers.

**Case-Study Procedures**

I used a single-case design to interview individual stakeholders at different locations within the City of Vancouver and Metro Vancouver region and FVRD. The system under investigation was geographically bounded by the administrative or regional boundaries of
the Metro Vancouver region, FVRD and Vancouver municipality. In addition, the Metro
Vancouver region and FVRD had natural landscape boundaries to the north and east
(mountains), to the west (Pacific Ocean) and an international (political) boundary to the
south with the United States (U.S.).

The issue I investigated concerned the perceptions of market relationships between
horticultural crop producers in the Lower Mainland and retail, wholesale and food service
buyers in the City of Vancouver and an examination of these groups’ interest in establishing
broader and deeper market relationships. In addition, using an agroecological perspective, I
wanted to examine the implications for a more self-reliant local horticultural supply chain
system that offered greater food security within the context of a liberalized, global food-
distribution system.

For this study, the investigation was exploratory: I tried to illustrate the nature and extent of
the existence of the phenomena in question (perceived market relationships), to show a
variety of stakeholder perspectives and to present the potential for respondents—in this
case food-product buyers in Vancouver and food producers marketing a proportion of their
horticultural products from the Metro Vancouver region and FVRD—to overcome real or
perceived market barriers. I employed a triangulated research strategy by accessing multiple
sources of evidence to ensure my approach was both valid and accurate. These data
sources featured semi-structured, open-ended interviews, as well as private and public
documentation and peer-reviewed literature.

**Case-Study Interviews**

I sent letters of introduction and invitation through Canada Post to 160 potential interview
participants. A different set of questions for buyers, producers and the BC Vegetable
Marketing Commission guided the interviewing process (Appendices C, D and E). Based on
the responses to this mail-out, 39 semi-structured, open-ended interviews began in March
2003 and ended in January 2005. Raw interview data consisted of more than 55 hours of
recorded conversation resulting in over 650 pages of transcripts. With the exception of
seven interviews, the interviews were conducted within the prescribed 45-minute timeframe.
With the exception of three interviews, all of the interviews took place at respective business
establishments. Each interview participant completed and signed a copy of the informed
consent document before their interview took place. Each interview participant retained a copy of the informed consent document as well as the letter of invitation to the interview (see Appendices F and G). In addition, farmers were given a copy of the interview questions several days prior to the interview to assist with answering the questions, as their time was limited during the growing season. I recorded all interviews in person or by phone with the permission of the participant in question, using the Sony Net-MD, MZ-N1 MiniDisc recorder with the optional stereo microphone. I interviewed 24 managers or owners/operators of Vancouver food-system markets, 12 geographically distributed horticultural crop farmers/operators in the Lower Mainland, one food wholesaler/broker, one full-fledged food broker and the manager of the B.C. Vegetable Marketing Commission. The interviews were then broken down into sampling units, shown in Table 4.1. All interviews were transcribed by a professional transcriber. The transcriptions were then imported into the N6–NVIVO7 software as text records for categorizing, coding and qualitative analysis.

<table>
<thead>
<tr>
<th>Market Category</th>
<th>Market Channel</th>
<th>Interviews Planned</th>
<th>Interviews Completed</th>
<th>Interview Participant ID</th>
</tr>
</thead>
<tbody>
<tr>
<td>Conventional (c)</td>
<td>a. Restaurants (r)</td>
<td>3</td>
<td>3</td>
<td>HU, KF, RR</td>
</tr>
<tr>
<td></td>
<td>b. Caterers (c)</td>
<td>1</td>
<td>1</td>
<td>IL</td>
</tr>
<tr>
<td></td>
<td>c. Supermarkets (s)</td>
<td>1</td>
<td>1</td>
<td>YF</td>
</tr>
<tr>
<td></td>
<td>d. Neighbourhood Green Grocers (g)</td>
<td>2</td>
<td>2</td>
<td>FL, MO</td>
</tr>
<tr>
<td></td>
<td>e. Home Food Delivery (h)</td>
<td>1</td>
<td>1</td>
<td>VH</td>
</tr>
<tr>
<td></td>
<td>f. Grocer Wholesalers (w)</td>
<td>1</td>
<td>1</td>
<td>UO</td>
</tr>
<tr>
<td></td>
<td>g. Farmers/Operators (p)</td>
<td>6</td>
<td>6</td>
<td>OB, XH, OS, IO, GN, GR</td>
</tr>
<tr>
<td>Alternative (a)</td>
<td>a. Restaurants (r)</td>
<td>3</td>
<td>3</td>
<td>SM, OB, HM</td>
</tr>
<tr>
<td></td>
<td>b. Caterers (c)</td>
<td>1</td>
<td>1</td>
<td>TL</td>
</tr>
<tr>
<td></td>
<td>c. Supermarkets (s)</td>
<td>2</td>
<td>2</td>
<td>HM, HW</td>
</tr>
<tr>
<td></td>
<td>d. Neighbourhood Green-grocers (g)</td>
<td>2</td>
<td>2</td>
<td>RO, XM</td>
</tr>
<tr>
<td></td>
<td>e. Home Food Delivery (h)</td>
<td>1</td>
<td>1</td>
<td>IS</td>
</tr>
<tr>
<td></td>
<td>f. Grocer Wholesalers (w)</td>
<td>1</td>
<td>1</td>
<td>FM</td>
</tr>
<tr>
<td></td>
<td>g. Farmers/Operators (p)</td>
<td>6</td>
<td>6</td>
<td>FF, RG, RB, JV, AV, RF</td>
</tr>
<tr>
<td>Others</td>
<td>a. Institutional Food (i)</td>
<td>6</td>
<td>6</td>
<td>FP, LC, ST, XB, YJ, ZH</td>
</tr>
<tr>
<td></td>
<td>b. Food Product Brokers (b)</td>
<td>1</td>
<td>1</td>
<td>LD</td>
</tr>
<tr>
<td></td>
<td>c. Lower Mainland Independent Grocers</td>
<td>1</td>
<td>0</td>
<td>Declined interview</td>
</tr>
<tr>
<td></td>
<td>d. Lower Mainland Grocers Co-Op Assoc.</td>
<td>1</td>
<td>0</td>
<td>Declined interview</td>
</tr>
<tr>
<td></td>
<td>e. BC Vegetable Marketing Commission (m)</td>
<td>1</td>
<td>1</td>
<td>RD</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td></td>
<td>41</td>
<td>39</td>
<td></td>
</tr>
</tbody>
</table>
I selected these stakeholders on the basis of their direct personal or professional knowledge and/or experience regarding the distribution of food within the local food system. The purpose of the interviews was to examine the local market situation more closely and to develop a clearer understanding of the market system, and to understand the local market’s relationship to the global food system.

By formulating a specific series of questions for these stakeholder interviews, I wanted to gain insights about the individual avenues stakeholders used to obtain their fruits and vegetables, assess their particular knowledge about their origin(s) and identify the conditions in which local food producers did or could participate in particular local market channels. I asked stakeholders of the various market channels and categories (see Table 4.1) a range of open-ended and close-ended questions to determine produce sourcing and selling activities relevant to their particular market channel.

A detailed breakdown of the responses logically compiled from all the interviews for each question is found in Chapter 5. Here, the reader can find a delineation of emergent themes and cases that exemplified salient issues.

**Participant Selection Process**

According to Sandelowski (1995), equivalent stakeholders within the selected sampling units need not be represented in the proportions in which they appear in a certain population. I assumed that data from 39 stakeholders—if statistically non-representative—would be informationally representative (Sandelowski 1996, 1995; Maxwell 1996), and comprise the data needed to build a picture of the produce sourcing or production in/for the City of Vancouver.

In order to reduce researcher bias, each business name was assigned a random number, using the random number generator in MS Excel. The businesses were then put into numerical order according to their random number assignment, lowest number to highest. Using the subsequent list for each market channel, the first and every tenth business was chosen for sending an interview invitation. With the exception of institutional food-service establishments and grocery wholesalers every first and tenth business establishment in its respectively categorized list received an invitation for an interview. Grocery wholesalers are
independent and relatively few in the City of Vancouver, and thus I sent an invitation for an interview to all of these establishments.

I chose the following categories for my sample set: supermarkets, institutional food systems, green grocers, restaurants, health-food stores, home-delivery services and farmers/producers. I identified specific farmers and buyers’ establishments for potential interviews as I became more familiar with the local market landscape. I recorded all interviews for transcription, in-depth review and long-term accuracy to allow me to focus on the interview process as it unfolded with subsequent respondents. I selected the categories within my sample set for three reasons: first, because their categories as a whole may represent the greatest proportion of produce purchasing in the city of Vancouver; second, because I assumed the establishment in question would offer the best insights regarding the existing market for local horticultural products; and, finally, because they each represented a distinctly different food service sector in terms of the variety of clientele, food-marketing issues and management objectives. By seeking a variety of market channels, I assumed I could saturate the data and build a broader perspective of food sourcing for the city of Vancouver. According to Sandelowski (1995) an adequate sample size in qualitative research is one that permits—by virtue of its limited size—the deep, case-oriented analysis characteristic of all qualitative inquiry. Such a modest sample size could thus proffer a new and richly textured understanding of experience of the interview participants in their respective roles as buyers and as producers.

Another factor to consider prior to conducting the interviews was the compilation of a reliable list of potential participants. For this study, business names and contact information for all food retailers, food-product brokers, wholesalers, caterers and restaurateurs to be interviewed were acquired through the on-line Vancouver Super Pages69. There I accessed each channel and compiled a list from within. The resulting lists of business names were copied and pasted into Microsoft Excel and ordered alphabetically. Each list was filtered, and certain establishments were removed if they were deemed irrelevant with respect to fresh produce. Particular restaurant establishments were removed from the eligibility list according to the following criteria:

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69 On-line at: http://www.superpages.ca/
1. Franchises, because their food acquisitions are typically prescribed and pre-determined by contract with the respective franchiser grantor/headquarters/head office.\textsuperscript{70}
2. Fast Food (quick service), see criterion 1.
3. Businesses with more than one location within Vancouver. (Only one business location remained on the list.)
4. Restaurant management businesses.
5. Numbered companies or names.
6. Businesses that somehow made the Super Pages on-line listing, but were not food-service establishments.
7. Business establishments with limited/restricted menu choices or food specialties that I assumed to have relatively few fruit and vegetable needs (e.g. bagel, gelato, donuts, coffee shops, bars/taverns, bakeries, fried chicken, gourmet hot dogs, beer/breweries, tea houses, French fry establishments, pancake houses, and burger, sandwich/deli, frozen yogurt, pizza and sushi restaurants).
8. Multiple locations

Green-grocer establishments were removed according to the following criteria:

1. Businesses with more than one location within Vancouver. (Only one business location remained on the list).
2. Numbered companies or names.
3. Businesses that somehow made the Super Pages on-line listing, but were not food service establishments.
4. Business establishments with a predominant business focus other than food products, such as video stores, tobacconists, flower stores, fuel stations, discount food stores, herbal-medicine stores, meat grocers and seafood grocers.
5. Particular alternative green-grocers, such as fitness and nutrition, vitamins, “eco” products, herbal remedy, therapy, nutraceuticals, health-care products and personal hygiene.
6. Multiple locations

Grocery wholesaler establishments were filtered (removed) if they were identified by the following criteria:

1. Import companies.
2. Duplicates.
3. Trading companies.
4. Businesses included in other categories.

Catering establishments were removed based on the following criteria:

1. Businesses with more than one location within Vancouver. Only one business location remained on the list.
2. Numbered companies or names.
3. Businesses that somehow made the Super Pages on-line listing, but were not food-service establishments.
4. Business establishments with limited/restricted menu choices or food specialties that I assumed to have relatively few fruit and vegetable needs, such as meat-oriented menus, bakeries, institutional food services, confectioneries, pizza parlours, pasta parlours, donut and coffee shops.
5. Multiple locations

\textsuperscript{70} Franchises typically with suppliers outside the region do not have the freedom of ordering from local suppliers for the purpose of maintaining consistency of their products delivered throughout the franchise network. Supplies are delivered through an independent system of either contracted or dedicated in-house delivery system or infrastructure.
Wholesalers and Broker

Wholesalers and produce brokers were not subjected to the filtering process because none of these businesses specialized strictly in horticultural produce. Within the study area, relatively few home food-delivery establishments existed, and they all had fresh produce available for their customers, therefore none of these businesses were filtered out. I interviewed only available local, conventional, home-delivery retailer in the Lower Mainland which was not located in the City of Vancouver but in Richmond, B.C., and has since gone out of business. Conventional and alternative supermarkets were filtered out only for multiple locations.

Institutional Food Service Providers

Institutional food-service providers, however, were selected according to a more subjective process. All six institutional food service interviews were conducted at the University of British Columbia (UBC) campus: interviews that represented the diversity of food services existing at UBC at the time. UBC campus’ institutional food services were operated within and outside UBC Food Service’s jurisdiction. The food services I interviewed outside UBC Food Services were both independents and contracted food providers. UBC Food Services operates catering on campus and manages and regulates independent food service franchise establishments. These services would have included UBC Food Services (food service provider and contractor), Sage Bistro (UBC Food Services), Green College Kitchen (independent), UBC Hospital Cafeteria (independent), Alma Mater Society Food and Beverage (contractor) and St. John’s College (independent). I assumed that other institutional food services, such as the services available at Simon Fraser University or Vancouver General Hospital, would operate similarly, the six institutional formats should adequately represent the range of differences (e.g., price and atmosphere, menu diversity, revenue, clientele base) in an institutional setting.

Producers

The horticultural producers included on the interview list were discovered through discussions with faculty at the Faculty of Agricultural Sciences, UBC, personnel at the Abbotsford Soil Conservation Society, Certified Organic Association of British Columbia staff members, Your Local Farmers’ Market Society in Vancouver management and the on-line
Fresh from the Farm 2002 Farm Fresh Products Guide. Farmers were selected based on their geographical distribution, scale, market orientation and, also, based upon the fact that they were horticultural producers. The geographical distribution for interview selection stretched from Delta to east of Chilliwack. Each farmer received an invitation for an interview and a follow-up telephone call. Those who agreed to participate were sent the interview questions at least two weeks prior to the interview. The additional lead-time gave the farmers an opportunity to prepare for the interview, while continuing to manage their horticultural/farm operations.

Restaurants

As far as the restaurant interviews were concerned, the subjects were chosen as described above, but further subdivided into family dining, casual dining and fine-dining classifications. An average restaurant-food, ticket-price range was developed and used to determine each restaurant classification. The price ranges were determined by averaging 2001 and 2002 Canadian Restaurant and Food Service Association average ticket prices and 2001 and 2002 National Purchase Diary Group Canada (NPD Group Canada) average restaurant ticket prices (Holroyd, personal communication 2003). The CRFA and NPD numbers were based on nationwide surveys. Ticket prices did not include the price of alcohol and the gratuity. Vancouver restaurant ticket prices were understood to be approximately 10 percent higher on average than the published CRFA national average prices (Toogood, personal communication, 2003). Increasing the CRFA prices by 10 percent brought their totals to a level closely approximating the published NPD figures. To be conservative, NPD figures were used to calculate the price range for each category of restaurant type (see Table 4.2). The price range calculations in Table 4.2 represent the high and low range that an average ticket price may fall within for that category of restaurant. Using a restaurant’s menu, I discreetly calculated several meal prices for myself to determine the category of the restaurant. Using this information, I sent the manager a formal invitation for an interview.

Unfortunately, my efforts to elicit responses from members of the restaurant-review industry regarding restaurant ticket-prices were unproductive. Restaurant reviewers, such as those that write for the local and national print media (i.e., Vancouver Sun Newspaper, Georgia Strait, The Globe and Mail and Vancouver Magazine), apparently do not use a systematic ticket-pricing classification scheme suitable for this research. Tourism Vancouver publishes restaurant ticket-price figures to assist tourists to make restaurant choices, to decide what
kind of food to buy and to determine how much they would be willing to spend during their stay (Jelec, personal communication, 2003).

Table 4.2. Average restaurant food ticket price determination

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Quick Service (Qu)</td>
<td>3.98</td>
<td>4.00</td>
<td>4.25</td>
<td>4.28</td>
</tr>
<tr>
<td>Family-Mid Scale (Fa)</td>
<td>8.49</td>
<td>8.84</td>
<td>8.70</td>
<td>9.05</td>
</tr>
<tr>
<td>Casual Dining (Ca)</td>
<td>12.12</td>
<td>12.25</td>
<td>11.90</td>
<td>12.03</td>
</tr>
<tr>
<td>Fine Dining (Fi)</td>
<td>23.62</td>
<td>23.72</td>
<td>24.02</td>
<td>24.12</td>
</tr>
</tbody>
</table>

Price Range Calculation:

- **Fa 2002** = NPD-Qu - NPD-Fa = $4.77
- Difference: $4.77/2 = $2.39 split
- NPD-Fa2002 +/- $2.39 = $6.66 - $10.53

- **Ca 2002** = NPD-Ca - NPD-Fa = $2.98
- Difference: $2.98/2 = $1.49 split
- NPD-Ca2002 +/- $1.49 = $10.54 - $18.06

- **Fi 2002** = NPD-Fi - NPD-Ca = $12.09
- Difference: $12.09/2 = $6.05 split
- NPD-Fi 2002 +/- $6.05 = $18.0 - $24.12

For alternative restaurants, where food was marketed as organic, vegan, or otherwise appealed to those with special dietary needs or desires, no separately published, restaurant ticket-pricing data was available. Consequently, the NPD ticket-pricing scheme above was used to select alternative restaurants for potential interviews. However, comparatively few of these kinds of restaurants existed at the time of the study. Alternative restaurants were then sent an invitation for an interview that was followed up with a telephone call two weeks later—a procedure that secured a total of three interviews.

**Declined Interviews**

Efforts to secure an open-ended interview with the Lower Mainland Independent Grocers and the Lower Mainland Grocers Co-Op Association were unsuccessful. Invitations for an

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71 1) Ticket prices do not include alcohol, gratuity, or taxes; 2) Tourism Vancouver based its ticket figures on convenient willingness to pay categories rather than as a breakdown of restaurant type categories; 3) I had ticket prices from my enquiries with people in the restaurant review sections of the local media such as Georgia Strait (Murrills 2003, personal communication), and the Vancouver Sun (Stainsbury 2003, personal communication). Unfortunately, they do not use a systematic ticket pricing scheme that I could use. Speaking with Andre LaRiviere (2003, personal communication) of “Conscientious Kitchen” fame, UBC/SUB (Toogood 2003, personal communication), and several other people in the food industry, I was pointed in the direction of BC Restaurant Foodservice Association (BCFRA). Unfortunately, BCRFA does not collect average ticket price figures; 4) In personal conversations and emails I found out that BCRFA did not keep statistics and data on restaurant ticket prices. However, the Canadian Restaurant Foodservice Association (CRFA) does but numbers are based on a nation-wide survey (Jelec, personal communication, 2003). In addition, I was advised to add 10 to 15 percent to the CRFA numbers on a nation-wide survey. I was informed that adding 10 to 15 percent to the CRFA numbers would be appropriate because it was understood Vancouver restaurant prices are, on average, higher than the national average (Jelec, personal communication, 2003). Adding 10 percent to the CRFA figures brings them closer to the NPD figures in most cases. In only one case is a NPD figure lower than CRFA.
interview were sent to these two organizations, followed by telephone contact. Both organizations declined to be interviewed for reasons they could not make clear due to a language barrier. My original intent, in either case, had been to broaden my perspective by asking questions related to the information I had already acquired from prior interviews.

Others

Other interview subjects included in the interview process for this study were food-product brokers, grocery wholesalers and the B.C. Vegetable Marketing Commission. All food-product brokers and grocery wholesalers were sent interview invitations after being selected from the local on-line Super Pages directory. These invitations were followed by a telephone call after two weeks if there was no response from the potential interview participant. One interview with each of the participants was ultimately secured for the purpose of this study.

Nutrient Cycling

The end disposal or recycling component of the food system was included in the interview selection process insofar as it related to the operations of buyers and producers, as well as potential for nutrient capture in a re-localized food system (see question 3 in Appendix C, and question 4 in Appendix D). The data garnered from the interviews regarding food waste disposal and recycling provided an indication of the participants’ willingness to seeing this waste stream prevented, reduced or captured and returned to enhancing soil fertility on those farms with which they would have direct marketing arrangements in the Lower Mainland. The data also provided a preliminary indication of the parameters for implementing a food-waste recycling system which would seek a broad spectrum of agri-food industry partners. As such, the data offered insight into some of the relevant beliefs and concerns the study participants had, and should be taken into account, if/when formulating nutrient cycling programs or initiatives that seek the industry’s involvement. However, it would not be prudent to assume that those interviewed are entirely representative of their respective marketing channel in terms of their methods or perceptions regarding nutrient cycling.
Data Analysis

All of the interviews featured in this study were transferred to full-size CDs, in order to facilitate the transcription process, enable digital encryption in a personal laptop, provide secure storage and allow for the reuse of recording discs. All interviews were transcribed over the course of the interview process, between March 2003 and June 2004. The data was analyzed according to the analysis protocol within the NVIVO7 text analysis software. The NVIVO7 software assists in the categorization, coding and identification of themes within the transcribed interviews. Based on the themes that stood out from the analysis, I chose excerpts from the interview text. Together, the themes and their associated excerpts provided a story about the local horticultural supply chain featuring the experiences of each interview participant and his or her relationships with others in the industry. The consolidated findings are outlined in Chapter 5.

Literature Review

In order to address the comprehensive requirements of this study, a knowledge base had to be developed that covered the following aspects of the Metro Vancouver region, FVRD and the city of Vancouver horticultural supply chain: the composition of agricultural products grown or produced; and, the composition, function and structure of the local marketing system. In short, one of my primary research methods was accessing relevant, published secondary source documents related, but not limited to, the Metro Vancouver region, FVRD, city of Vancouver food industry; Metro Vancouver region, FVRD, provincial and municipal records and archives related to agri-food and agriculture policy; Land Reserve Commission documents; B.C. Ministry of Agriculture and Lands (BC MAL); BC Statistics; Statistics Canada; the B.C. Investment Agriculture Foundation and its member organizations; Agriculture and Agri-Food Canada; the B.C. Agriculture Advisory Council; and, the British Columbia Council of Marketing Boards. At BC MAL, the Policy and Economics Branch and Economic and Social Development department was most helpful in addressing my inquiries. Statistics Canada electronic publications, available through library system indexes and databases, provided a great deal of background on agricultural, business patterns, trade, industry and community statistics data. From the data collected in the literature reviews and interviews, I tried to present the perspective(s) of the food service industry in the city of Vancouver that illustrated the local
market relationships and its connections to the local and global food systems. These relationships reflect the extent of dependencies and interdependencies that exist as a result of agricultural production and food consumption priorities and demands. As such, these relationships speak to the symmetry between the proportions of food consumed in B.C in relation to the food produced in B.C. In other words, I could reveal the potential of B.C. agriculture to meet B.C.’s demand for food products, and to what extent demand appropriates food production resources from elsewhere.

**Study Limitations**

The approach to data collection for this study posed some limitations. For instance, the decision to include additional stakeholders, farmers, and food-business categories in the interview process might have provided a broader and possibly more complete perspective on the subject of potential for horticultural product self-reliance. More detailed information, culled from a lengthier interview, may have been possible, but was not practical. In general, the interviews had to be kept relatively short, because the participants were responsible for managing their respective businesses.

Food processors were not interviewed directly, but a food wholesaler and a food broker were interviewed. Wholesalers and brokers are intermediaries that purchase and sell in large volumes to food processors. I assumed that by interviewing several of these intermediaries I would have acquired an indirect perspective of processors. However, in hindsight, I recognize this as remiss on my part, and that the thesis would have benefitted form at least one interview with a fruit and/or vegetable processor. As discussed in Chapter 2, their presence or absence can have a significant impact on the re-localization process.

**Verification, Reliability and Representation**

In order to address the potential for inaccurate and incomplete data, I relied upon triangulation and purposeful sampling (Dick 1999, 2000). By incorporating multiple sources of information (triangulation), the data was strengthened in its trustworthiness. I crosschecked the data I collected from the literature with interview participants to ensure reliability and validity of the research. In addition, crosschecked data collected from the interviews by asking the same interview questions, though sometimes in a way that
responded to the particulars of the conversation. This process of triangulation contributed to the validity of the data collected for this study. However, this study is predominantly exploratory and, therefore, cannot make claims of representation beyond the established boundaries of the study.

The ability to listen to tapes while reviewing field notes, as well as the fact that interviews were recorded and transcribed, provided rich data and at least partly addressed the threat of misinformation. Feedback was solicited from peers to help identify biases and assumptions, and flaws in logic or methods (Maxwell 1996: 94). The process of verification, by being reflexive, and systematically and critically questioning my actions and research practices, allowed me to build trust with my respondents to further reduce description errors (ibid. 1996: 76). The threat of poor interpretation by means of my own biases was addressed by explicitly acknowledging my biases or prejudices as they may have affected the interpretation of the data (reflexivity).

**Dissemination of Findings**

Ultimately, I will use the findings from this study to write articles and papers for professional, peer-reviewed publications (e.g. *Agriculture, Food and Human Values*, *Agricultural Systems, Agriculture, Ecosystems and Environment*, *Food Policy Journal*, *Urban Agriculture Magazine*, and *the Journal of Renewable Agriculture and Food Systems*). My research would be relevant in connection with a variety of topics, including food security, food-systems analysis, foodshed analysis, food mapping and food-systems planning processes, food-system economics, as well as food security and environmental policy. The findings and discussion from this thesis will play an integral role in the production of any manuscripts I submit for publication. Also, I intend to disseminate the findings and discussions within academic settings such as classrooms, and beyond, to produce various materials appropriate for the Vancouver Food Policy Council, other food-security advocacy organizations, as well as a source of information to submit in the interests of popular education (slide shows, presentations, newspaper articles, multimedia, etc.).
Summary

The agroecological and systems framework presented in Chapter 3 revealed the paradigm from which I approached my study of the potential for re-localization of horticultural supply chains in the Lower Mainland of B.C. I employed an exploratory case-study methodology to enhance my understanding of the qualitative relationships of local food-system actors, as they relate to purchasing, acquisition and production, provided insight into their self-assessed potential to contribute to, or participate in, an interdependent local horticultural supply chain system. In this exploration I attempted to develop a locally defined, representative storyline from 39 participants in the local food system. I collected the viewpoints from a defined set of food-system stakeholders within the Lower Mainland of B.C., and developed a representation of their relationships within the context of trade liberalization and the forces that help create a local market system dependent on the availability and accessibility to extra-regional food products.

In this study I explored many of the local implications of market forces both within and beyond the local or regional scale that influence B.C.’s potential to be self-reliant in food production. The problem investigated in this study is but a microcosm that is reflective of much larger systems in which it is nested and to which it is energetically open. From this perspective, the problems associated with food self-reliance are representative of a globalized agro-industrial food system. The issues that affect B.C.’s potential to be food self-reliant are but localized symptoms of globalized industrial food systems that demand asymmetric power relations, consolidation, specialization, control of decision-making processes, and comparative advantage to be competitive.
CHAPTER 5: FINDINGS

The following two subsections discuss the buyers’ and producers’ cases in terms of their current food sourcing and marketing relationships within the local and global marketplace. The buyers and producers interviewed also relate how they perceive the potential for strengthening their local food sourcing and marketing relationships. In addition to interviewing producers in the Lower Mainland and buyers in a variety of marketing channels in Vancouver, I interviewed a ranking representative (RDm) of the BC Vegetable Marketing Commission (BCVMC). RDm was interviewed for two reasons: 1) RDm was a long-established and well-respected producer with broad personal experience in the Lower Mainland; and, 2) because of RDm’s position within the BCVMC, RDm had a thorough understanding and outlook of both regulated and unregulated vegetable production and marketing in British Columbia. This single interview makes up the third subsection. I attempted to secure interviews with the Lower Mainland Independent Grocers Association (LMIGA) and the Lower Mainland Grocers Cooperative Association (LMGCA), to obtain a similar perspective within the grocery industry. However, both LMIGA and LMGCA declined to provide a representative for an interview. Similarly, attempts to secure interviews from mainstream supermarket grocers Safeway, Save-On Foods and Real Canadian Superstore failed for reasons of safeguarding proprietary information.

Where responses to a question are minimal or few I forego separating the interviews according to marketing channel headings, as the coded identifiers of the interview participants are sufficient and practical. Each interview participant has a four-letter identifier (e.g., ILca). The first two letters are the coded initials of the person interviewed, and the last two letters indicate the marketing channel and category (Figure 5.1). Where possible and practical, I present the information in a table format to facilitate reading.

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72 The BC Vegetable Marketing Commission provides for orderly marketing in the vegetable industry. It is directed by an appointed Chair and vegetable producers elected democratically by their fellow producers. The regulated components are: greenhouse vegetable crops including beefsteak tomatoes, tomatoes-on-the-vine, peppers and cucumbers; processing vegetable crops including peas, beans, corn, broccoli, brussel sprouts, cauliflower, cole crops, and strawberries; and storage crops including potatoes, carrots, rutabagas and others. The Commission acts by the authority delegated through the Natural Products Marketing (BC) Act and its regulations. The Vegetable Scheme establishes the Commission and prescribes it rules and procedures. The Commission’s decisions are subject to the supervisory and appellate functions of the Farm Industry Review Board (BCVMC 2007).
Throughout the chapter, I made the interview participants’ voice prominent. This accomplishes two things: first, to maintain integrity of context and complexity of responses; and second, to allow participants to tell their story, especially when the story offers significant insight to the particular question at hand. On occasion, I encountered a response to an interview question that articulated an idea, circumstance or strategy that stood out as exemplary or compelling. In these cases, I append the section with the full response enclosed in a text box. For most of the questions I provide the reader a summary of the salient issues or observations where I thought it helpful to assimilate the information. This helps also to develop a picture from the responses.

**Buyers’ Responses**

**Question 1: From where do the fresh fruits and vegetables you sell-process come?**

Alternative buyers had more elaborate and unprompted responses to the question of where the produce they serve or processes come. Some referred to the states of Washington and Oregon as local. In identifying the “where”, they identified geographic place names (e.g. Okanagan, Chilliwack, Fraser Valley, Creston and Oliver), whereas conventional buyers, more often than not, referred to companies or warehouse names (e.g. Neptune Food Services, Yin Brothers, Pacific Produce and Sysco). They were more likely than conventional buyers to say that relationships with their suppliers were direct, multiple and sometimes necessarily redundant, sometimes with dedicated/contracted growers who grew specifically for the buyer. They also expressed solidarity with businesses that shared similar business ethics and values. Conventional buyers imported a significantly larger proportion of their produce throughout the year compared to alternative buyers who had more seasonal variation. In both cases sourcing varied considerably according by season.
Alternative buyers’ responses had some or all the following distinguishing characteristics:

- Logistics and/or lack of infrastructure and knowledge about shipping is a significant concern (see Box 5.1)
- In general had more elaborate descriptions of their fresh fruit and vegetable sourcing activities and market relationships
- Included the states of Washington and Oregon as local sources of produce
- Without prompting they were more likely to state their sourcing relationships were direct with a farm or person, sometimes to the extent they were growing for, and buying from, themselves
- Expressed an openness to experiment or try different purchasing or sourcing options
- Had established multiple and redundant relationships with producers
- Established sourcing strategies that varied considerably by season
- Included or identified a proximate geographic place name (e.g., Okanagan, Chilliwack, Fraser Valley, Creston, Oliver, etc.)
- Were more likely to express solidarity with other businesses that share similar allegiances, beliefs or business ethics

Box 5.1 highlights an alternative buyer who engages in market relationships that may best exemplify the characteristics noted above.

Conventional buyers’ responses had some or all the following distinguishing characteristics:

- Were more likely to indicate that their fresh fruits and vegetables came from a warehouse in Vancouver (e.g., Neptune Food Service, Yin Brothers, Pacific, etc.), a multinational distributor (e.g., Sysco) or from California, or the United States [of America], Mexico or South America
- Were more likely to import a significant proportion of their produce year-round

Box 5.1. A wholesaler sourcing, contracting and purchasing locally

FMwa: Business to our customers is a wholesale operation for BC certified organic produce. And to the growers who supply us we act as a broker. We contract everything we want grown, we don’t simply buy what’s available, because if we simply buy what’s available, there’s no orderly marketing, and no one will really know what to grow and we will have a lot of duplication and a lot of holes in our availability. So, if we want to get what we need we have to go out to the growers before seed buying time, which starts in January or February with contracts saying, “We’d like you to do tomatoes and peppers, we’d like you to do melons and potatoes, and you to do carrots.” And then we, as part of our brokering to the growers, we give them crop contracts, and where it is necessary we give them letters of intent to purchase with some general pricing on it so they can get lines of credit. We talk to them about their infrastructure, what their long term goals are as a farm, whether they need to be investing in infrastructure, whether they’ve got enough, how they’re going to ship, we supply them with pallets and boxes and a manual showing what to harvest when, when it meets Agriculture Canada standards, how to pack it in the boxes, which boxes to use, how to label boxes, we supply them with labels, and how to build pallets so that after you’ve done all the work of growing it, harvesting it, washing it, and packing it, and getting it cold actually travels from point A to point B without falling over and destroying what it contains, which is a considerable problem. To our customers we offer the widest selection possible, which means more money for our business if we have a better selection to offer. For our customers it means, for some of them, they can buy exclusively BC’s products through the growing season.
Question 1a: How do fresh fruits and vegetables arrive to your place of business?

Most conventional and alternative buyers take advantage of one particular food delivery strategy: refrigerated truck. An exception may be those buyers that purchase from farmers’ markets or farm-direct delivery, where fresh fruits and vegetables are typically harvested within a day of sale, cleaned with cold water to remove field heat and stored in a cool-room. However, the question how food arrives to their place of business raised logistics of delivery standards and timing. Many respondents, regardless of buyer-type, specified that standards of delivery (i.e., the logistics of timing, food quality, count, weight) are important to them. Conventional buyers systematically chose one or two shippers or distributors who adhered to those standards, as well as those who instilled confidence and trust from predictable deliveries. For alternative buyers these distributor relationships were more complex, multiple or redundant, and self-involved. For all, building trust and confidence meant that their business success was important to the supplier with logistics figuring largely in their relationships. However, alternative buyers typically had more elaborate descriptions of how their food was delivered betraying an extensive knowledge of the logistics, infrastructure and processes involved. This contrasted noticeably with conventional buyers who’s descriptions appeared far more straight forward, which may be a reflection of the convenience of single phone call ordering.

Alternative buyers’ responses had some or all the following distinguishing characteristics:

- The need for dependable food-safe standards and logistics to reduce business risk
- Tended to have more elaborate descriptions of how their food is delivered, reflecting extensive knowledge of the process involved
- Had more complex or multiple relationships (see Box 5.2) for food delivery that could be described as self-initiated, coordinated and organized
- Only one buyer discussed how food comes from another country
- Indicated to be more likely to accept product directly from producers and much smaller-scale shipments
- UOwc, who may be the predominant supplier of the organic food products, including produce, in Vancouver, has supply global chain relationships as complex as any

Conventional buyers’ responses had some or all the following distinguishing characteristics:

- Relationships with distributors were more straightforward, typically defined as placing an order with a single phone call for a majority of their produce needs
- Few accepted produce farm-direct shipment under either a special or ad hoc arrangement
- Used many of the same trucks that operate and deliver on a predetermined route
Box 5.2. Arrival to place of business as method or process

IPca: Everything comes in a refrigerated truck from Allied. Ten to twelve years ago in Vancouver you’d have a multitude of guys pulling up at the back door and opening the trunk of the car, and they’d have all the produce that they’d bought from the farms locally. We just don’t do that any more. Sure, it would save you a few dollars here and there but you can’t afford to take that kind of chance any more. So we buy from Allied because they’re warehouses have set standards, and many of the customers that we’re dealing with, we can’t afford to have anything coming in the door that is either substandard or that’s not been refrigerated if it should be refrigerated. Of course, if we’re buying it on our back door step, it’s literally a walk down the street. All the organic stores that deliver do it in refrigerated trucks as well.

Question 1b: How often do they arrive to your place of business?

With a minimum of two deliveries of fresh produce per week (and as high as seven for some conventional buyers) all buyers depend on just-in-time delivery for their fresh produce (see box 5.3). More frequent inventory turnover of produce and the particular demands of institutional food services demand more frequent deliveries. They turn their entire inventory of produce over at least once per week. Institutions that provide food service or host events, or demand the highest quality food, sometimes require more frequent deliveries (e.g., FPi and XBi). Buyers are faced with service disruptions if just-in-time deliveries fail to materialize and the buyer cannot find a suitable source or supplier (FMwa and HWsa).

Among those interviewed, just-in-time delivery appears to be a standard operating procedure and a component of contracted delivery agreements. However, without prompting only two of those interviewed expressed awareness of facing service disruptions if their just-in-time deliveries failed to materialize, and found themselves unable to secure an alternative supplier. What may distinguish alternative buyers from their counterparts in this study, especially wholesalers, restaurants, supermarkets and home delivery services, is that they will accept shipments direct from the producer him or herself.

Box 5.3. Frequency of Produce Shipments/Delivery

HPsa: Well, with the organic wholesalers we can get delivery 6 days a week. With our local vendors or farmers, we have a delivery system set up in relation to a) where they are located, b) what it is that they grow for us – we have some farmers that we deal with locally who, when they are in full production of whatever it is that they grow, they deliver it to us 3 days a week: Monday, Wednesday, and Friday. And then there are a couple of local farmers who, when they are into full production, but they are smaller scale farms, so they will deliver to us twice a week usually Tuesday after the weekend, to replenish after weekend sales, and then a Friday to get ready for the weekend. And when we’re looking at our soft fruits and our apples that we get from Similkameen Valley and Oliver, just twice a week delivery.
Question 1c: From where do your shipments originate?

A significant difference between alternative and conventional buyers was that alternative buyers generally appeared to have more intimate or detailed knowledge of where their fresh produce comes from. Many alternative buyers responded to this question aware that food originates from locales, local and distant, where the produce was grown and has been transported from. Others responded to indicate the origin of their food to be their retail supplier, whether it came from a farm store, warehouse wholesaler, distributor or broker. In general, alternative buyers tended to observe the former and conventional buyers the later. Depending on the product and season, all buyers are aware if their supplier obtains produce from distant places such as California, Mexico, Chile or New Zealand. Their knowledge of where their shipments originate may extend beyond the first link in their supply chain and include the status and strength of those other relationships (e.g., ISha, HPsa, HWsa, FMwa, ROga and OBra) (see Box 5.4). However, an independent supermarket chain (YFsc), restaurant (KFrc) and wholesaler (OUwc) showed similar intimate knowledge or familiarity when describing what they considered the origin of their shipments. Alternative buyers established more direct transactional relationships with their supply chain representatives than their conventional counterparts. Also, they appear to include, by necessity or as a result of their values framework, the status and strength of business relationships upstream from their immediate supplier or link in their particular supply chain.

Box 5.4. Stated Origin of Produce Shipment

FMwa: BC is huge, the towns are widely distributed, but Clark Freight runs all over the province. There are only a few very small single routes, like Osoyoos and back, and the South Okanogan, where other freight companies have a decent amount of business. In the South Okanogan, it’s Greenline Express. They run so many trucks through there getting the apple crops out that we use Greenline for that. I use Frances Mushrooms’ trucks out of the North Okanogan when I can because they are a good, small, local business and I try to keep that as steady as I can. For the rest of the province, I just use Clark Freightways. They have freight terminals with coolers at most of the main points in the province. Even though they are big, they serve this massive, massive province and they go every little town or they intertwine with local carriers to every little town. I really respect that. We work with 85 producers, and we will be working with 80 farms this year. We started out working with twelve farms. They’re not from every place in the province. However, I don’t have a grower in Williams Lake. I have growers in Price George, Smithers, Hazelton, Fort St. John, Cristina Lake, Pemberton, the South Okanogan, and the North Okanogan. There’s not enough growers on Vancouver Island, we don’t bring a lot from there often.

ROga: From Richmond, from Wild West. I haven’t haven’t received shipments directly from producers. I talked to some of the people who I was dealing with at the farmer’s market about whether that was a possibility, they just weren’t set up for it, and I think if they were going to try to do it then it would be a larger volume. If they are a farmer way out of the city with a $150 order, if they could make it up, they’d have to drive all the way into the city and all the way back for that one stop. I found that the producers I spoke to generally just didn’t have the structure set up to do that.
OBra: Certainly in the case of tomatoes and apples and grapes, and things like eggplant that will grow here. And then out of season we tend not to serve those products, so we won’t be importing for example, tomatoes or even using hothouse tomatoes, we try to use field grown, seasonal...When I say that we are nearly 100-percent organic, say in the case of butter, dairy, all the produce, all the poultry items, we know the source. The ducks are from Cowichan. For the most part it’s very important for us to know where our food is delivered from and by whom. Quite a bit of our organics would be coming from California, and that’s something that we don’t feel that great about, and we’re trying to use that choice as little as possible. And certainly in the summertime, we buy locally 100-percent. Things like oranges and lemons that we inevitably need, grapefruit and occasionally avocados, some of the more exotic items that are a part of restaurant operation, have to come from those places. But generally things like lettuce, tomatoes, we have to have local.

**Question 1d: How soon after ordering do you receive shipment/delivery?**

Those buyers who supply other buyers, such as wholesalers (FMwa) and brokers (LDb) re-supplying retail and distributor/processors, respectively, operate just-in-time schedules where deliveries arrive within hours to when they are stocked or processed. According to LDb, “We are close to running on just-in-time delivery schedules. We try to run as close to it as we can, but we really can’t because we can’t take the chance of running out of product for our customers. What we find is a lot of our customers are doing just-in-time.” One such customer could be wholesaler, UOwc, who in turn is a supplier to regional retailers and restaurants, “With 14 years worth of history our purchasers are bang on. They are in constant communication with [our] suppliers so they know when product is coming on board and when there are gaps. When product is entering its production period…We have a pretty good robust computer system as well that can give us movement reports and historical information…” Further, institutional buyers such as FPI require its distributor(s) to accept contractual obligations for delivery the day following order placement. At least among those interviewed, just-in-time delivery appears to be a standard operating procedure.

All buyers depend on the ability to resupply within 1-3 days and expect delivery within 3-24 hours after ordering. Again, alternative buyers typically have multiple suppliers and comparatively complex purchasing arrangement, even large-volume buyers such as wholesalers, supermarkets and home delivery. The alternative wholesaler interviewed patches together an ad hoc route of pickups across the province for delivery to its distribution facility.
Those buyers who answered to this question had the following notable responses for receipt or delivery of his or her produce:

- All buyers typically receive shipments within three to twenty-four hours after ordering
- All buyers depended on the ability to resupply within one to three days
- Most book deliveries far in advance or have forward contracting for consistent and pre-planned delivery, but alternative buyers can have multiple suppliers and comparatively complex purchasing arrangements with produce shipping separately from multiple locations
- Alternative buyers typically receive shipment direct from the farm, especially large volume buyers such as wholesalers (FMwa), supermarkets (HPsa and HWsa) and home delivery services (ISha, see Box 5.5). Some, like FMwa, will plan a string of pickups along an ad hoc route for delivery to its distribution facility

**Box 5.5. Stated timing of receipt of shipment/delivery**

| ISha: | We order now in sufficient quantities for, our distributors Wild West and Pro Organics, that they actually change their truckloads based on our order because it’s so large. So we actually buy on Thursday for delivery the following week, because basically, it’s ordered on Wednesday, it’s picked on Friday, but the commitment to pick it is made on Thursday, and then it’s on a truck to us on Sunday. In fact it could be picked on Saturday and Sunday morning, because literally, as soon as it’s picked it’s on a truck coming up here and then we get it on Monday and Tuesday, and then it’s another, a second picking. They come up twice a week. And so they arrive on Sunday afternoon from across the border, and Wednesday afternoon. So our Tuesday and Wednesday orders are brought up here on Sunday evening, and our Thursday and Friday orders are brought up on Wednesday evening. Our local produce…we only have to put in the order two days in advance, and it’s picked one day in advance.

Our produce is picked early in the morning and then it’s put into refrigerated trucks, so it really doesn’t become a problem and our quality is significantly better than a retail store because really where all the damage happens is in the store. It’s under bright lights, at room temperature for up to four days. We know to the exact head of lettuce exactly what we’re going to get every day. And we get exactly to the head of lettuce, maybe a half case extra. So it’s brought in and within no more than 22 hours it’s on the trucks going to the customer. And in as little as 12 hours in some cases, it’s actually…. from the time that it reaches our warehouse to the time that it’s actually at the customer’s house. And of course it’s kept in the dark; it’s only brought out at the last minute because literally at the speed that they’re going, they go through a case a minute, so it’s brought out and in 10 minutes it’s packed into bins and in a maximum of a half hour later it’s on the truck going to the customer’s door in refrigeration trucks. Let’s say that you’re losing 10-percent of your nutrients every day with the produce. With the organics and the trace nutrients you’re only losing five percent a day, even though it can’t be proved that the total nutrients there at the time of picking is any different, it is by the time that it is consumed. So that’s why it’s difficult to pin down and there are very few studies that come out proving it, because it is very hard to prove. There are all these other conditions that affect it.

**Question 1e: Do you personally know the individual that supplies your produce?**

In the case of brokers and wholesalers for both alternative and conventional buyers, it is not unusual for there not to be an intermediary between themselves and the grower-supplier. Consequently, the marketing connection appeared to be strong, with knowledge of the
other’s business valuable for both local and distant suppliers (i.e., each knows, and attempts to accommodate, the other’s particular business needs and goals) developing trust and rapport. Many conventional and alternative buyers valued and developed relationships through face-to-face transactions. Caterers, most green grocers and most institutional food service buyers typically did not show an interest in knowing their immediate fresh produce supply chain participants (i.e., supplier of their immediate supplier). There seems to be little difference between conventional and alternative food buyers in this respect. With few exceptions their knowledge of growers upstream of their immediate supplier is either non-existent or fortuitous. In contrast, supermarkets stated they had close relationships with many of their suppliers’ suppliers.

Buyers who answered to this question had the following notable responses beyond “yes” or “no” for personally knowing the individual that supplies his or her produce:

- They established relationships over several years, though in a different place of employment.
- Familiarity with a farmer are sales representatives that includes confidence in service and trust that product will be delivered within a specific timeframe.
- Relationships vary from the impersonal (e.g., “...it’s a warehouse” - HMra), to the highly personal (e.g., “Of course I know him/her personally” – OBra).
- Some buyers are proactive in their relationship with their supplier (e.g., “…we make it a policy, and it’s our purchasing staff that makes it a policy, to go out and visit the growers when they can.” – ISha).
- Knowledge of suppliers by conventional produce buyers who sell directly to consumers, with few exceptions, is confined to a sales representative.
- At the wholesale, broker and green grocer level, especially for alternative buyers, there is greater tendency for personal relationships with suppliers, including producers.
- Several buyers (e.g., OBra, HWsa, UOwc, YFsc, and ISha) may be representative of the level of personal knowledge that some buyers seek in accordance to their business model and personal values (see Box 5.6).

**Box 5.6. Stated personal knowledge of produce supplier**

OBra: I certainly know all of the suppliers, and I know – it’s an ever-increasing number because you meet someone like Gary King, and then they introduce you to someone like Thomas Reid, and Thomas Reid may introduce us to Townline Greenhouses in Abbotsford, and they might introduce us to someone else, so our circle of suppliers and growers has increased over the years, and I love it. Being a farmer is not an easy thing, and when they come all the way out from the farm, having grown it and packed it and they come in here I very often say, “Let’s have a bowl of soup and a cup of tea.” Invariably they come when we’re busy but I always try to make sure that they get some form of soup and some bread and a little bit of nourishment, you know? We have deep friendships. We give cooking classes out at the farm. They have quite a large kitchen out there, so again we try to base the cooking classes on what’s available out there so they can go and gather for us or pick it or we’ll go out and pick it, people who come to the class can actually get their feet dirty and put a face to the food, and get a better perspective, and maybe even value it more... Well, it started about 11 years ago - that would be about 1991 or 1992. One of my chefs at the time introduced me...
to Gary and Natty King, who have Hazelmere Organic Farm. They brought us – I can't remember what the first product was, let’s say it was corn – and we tasted it and, “Wow, that was neat.” And maybe a little while later there was another crop. And from that, as I say, the quantity of product that we buy from them has increased tremendously, and they introduced us to other people. So I didn’t wake up one morning and say, “We’re only going to buy fresh local produce from organic farmers!” It just happened. I mean we were certainly in that groove years ago, thinking, “I’m from Wales, I don’t think Welsh food would be appropriate, I’m not from France, I’m not going to do an Italian or French concept. What’s happening?” Down in California at the time, in 1985 certainly, and prior to that, people like Alice Waters were going out to local farms and saying, “Wow, this is amazing, why would we want to bring something in from the other coast when isn’t this what we should be looking at and working with?” So it grew from that. So when Gary and Natty came along, it crystallized the whole thing of the restaurant and “Yeah, this is where we should go.” Not to be a promotional tool but something that seemed so commonsensical to me.

Question 1e.i.1: (Yes)\textsuperscript{72} How did you come to know the person that supplies you with the produce you use or sell?

Buyers stated they developed confidence, or lack thereof, in a person or sales representative through experience in situations that emphasize consistency in quality, quantity, availability and price competitiveness. Both conventional and alternative buyers want access to product variety and diversity and feel they can be loyal to more than one supplier. Some buyers who stated they were committed to their ideals to acquire quality product wished to establish familiarity and actively seek opportunity to know their produce supplier. Buyers developed relationships with a sales representative through face-to-face transactions but were sometimes lost as the scale of the business grew. But those where the business remained relatively constant, their relationship with their supplier remained constant.

Business relationships varied from the impersonal to the highly personal where they were proactive in establishing or maintaining relationships. Conventional buyers tended to rely on sales representatives, whereas, alternative buyers tended to rely on personal (e.g. face-to-face) relationships with suppliers, including producers. Commitment in these relationships became established over several years as confidence in service and product delivery was established. Consistency in quality, availability and price competitiveness were important factors in how buyers came to know their suppliers, maintaining multiple loyalties to preserve product diversity and optimal pricing opportunities. Successful, long-term business relationships are mutually beneficial relationships built on rapport and trust between the buyer and producer (i.e., supplier). Many alternative buyers expressed this trust as their

\textsuperscript{72} They answered affirmatively to Question 1e.
capability of putting a face, place and, therefore, value on their produce. At the wholesale broker and green grocer level, especially for alternative buyers, there was a greater tendency for personal relationships to develop with suppliers, including producers. Thus, networking opportunities that bring together buyers, producers and other suppliers are an important aspect for establishing and maintaining long-term, competitive marketing relationships.

The alternative wholesaler/broker interviewed, FMwa (see HWsa), develops relationships through an effort to mediate between buyers in the marketplace and growers throughout the province. This mediation process includes providing logistical services, thus facilitating and securing future or additional transactions and creating more opportunity for their supplier and buyer, as well as financial security for their wholesale and broker business.

Successful, long-term business relationships established what appears to be a mutually beneficial relationship where each party accepts a give and take in terms of meeting one-another’s’ expectations. They established and built rapport and mutual trust over time (XBi). ISha says developing this kind relationship is, for them, a matter of policy as well as personal initiative. In several cases buyers stated that they actively collaborated in planning their menus while, simultaneously, producers and their respective buyers planned their crops (e.g., OBra, ISha, FMwa, and UOwc). OBra developed deep relationships with his suppliers such that they offer on-farm cooking classes together, letting people get a better perspective of their food consumption by putting a face, place and value to their food. UOwc also developed deep relationships with its suppliers/growers in British Columbia: “We’ve been on many of their farms, we know them, and we share a glass of wine with more than one of them”. For a larger supplier such as UOwc, this kind of relationship building extends to their suppliers in the United States, as well.

According to HWsa, alternative buyers developed long-term relationships with their suppliers off farm trucks at the back door before “organic” suppliers and producers existed. Later, these relationships were established and maintained through networking opportunities such as organic tradeshows and certifying bodies. Word of mouth is valuable for establishing business connections in the industry. UOwc and ISha host community events that bring together customers and producers and suppliers, integrating and mediating external business interactions. For FMwa, her mission evolved from business contacts in prior employment where a lack of marketing professionalism and organization were
commonplace. In general, suppliers, and more specifically, producers were largely unprepared in terms of marketing and selling their product(s) (see Box 5.7a). In contrast, with the objective to improve competitiveness, HPsa was motivated to provide producer-suppliers with a fair price for locally produced fresh fruits and vegetables. The aim was to encourage and promote import replacement by eliminating U.S. price competition, thereby reducing wear and tear on infrastructure and depletion of fossil fuels (see Box 5.7b).

Developed confidence, or lack thereof, in a person or sales representative through experience in the following situations:

- Through consistency in quality and quantity, availability and price competitiveness
- Buyers can have more than one supplier so they can get the best pricing possible
- Buyers have access to produce variety and diversity of product. They can be loyal to more than one supplier for fresh fruits and vegetables
- Buyers developed relationships through face-to-face transactions where they were motivated or interested (KFrC)
- Buyers wished to establish familiarity and actively seek opportunity while expressing a commitment to an ideal or to acquire confidence and assurance of product quality (RRRc)

Developed relationships with a sales representative in the following situations:

- Face-to-face transactions but were sometimes lost as scale of business grew and the investment of time to maintain them became less possible
- Where scale of a buyer’s business (e.g., IPca and ROga) remains constant, their relationship with their supplier remains unchanged because they seem to operate in a comfortable equilibrium with their chosen supplier (e.g., HURc)
- Over a period of time buyers and their suppliers gain knowledge and familiarity with one-another, including knowledge of each others’ business history and reputation, such that they develop rapport and trust

Box 5.7a. How did you come to know the person that supplies you with the produce you use or sell?

FMwa: Growers in the Fraser Valley, I knew a few growers. I worked at Wild West Organics and I met the Peter Briner and George Bore, who both sold to Wild West while I was the receiver there. It was then that realized what a shoddy deal BC growers were getting because George would come in bringing 30 cases of leeks and he’d say do think you guys would need any kale or need cabbage or anything? Of course, I was just the receiver; I would just receive from California in October a couple of pallets of green kale and green cabbage. From California, when three miles literally, three miles down the road more fresh product sitting in a farmer’s field, fully certified. That was willing to negotiate the price on so it would be a reasonable price. That really horrified me. It also horrified me that came in with unlabelled boxes; he was really unprofessional, not terribly professional in his approach. I met Peter Briner when he came in to bring bins of squash. They were not cleaned, the bins weren’t labelled, a couple of mix variety bins, and he didn’t understand how important it was to package the product properly. I also met Brent Harris from Fraser Land when they were just starting with organic. He would pull up on a Sunday and he would hand down a thousand pounds of
potatoes from the top of his flat bed truck. His stuff was too low for the forklift to unload it. I couldn’t get on there with a forklift. I met both guys and when I left Wild West I went up to Cawston with my partner and we went the group called Direct Organic Plus, an apple growing co-op. Anyway, we went up to Cawston and we spoke to Trevor Evans who is the president of that co-op and he really reflected back to us what we have seen, which was BC product was hideously underrepresented in the marketplace in BC. They’d been selling their fruit, and they produce a couple of million dollars worth of tree fruit a year into the United States. At that point he sold a couple of pallets, about four thousand pounds, of Red Delicious apples to a broker who then sold them to New York. When instead of getting paid for it, they ended up getting billed for it. The broker just sold them for six dollars a box, well the cost of the washing, grading, packing, and labelling is eleven dollars a box for fancy grade apples. So we talked to them about that and based on that conversation and another soon after, they gave us a contract. Like a verbal contract, they said we’ll supply you with whatever you want we’ll give you first crack. We want our stuff to be sold locally, that’s what we are into, that’s why we got into this business. That’s four and a half years ago now and they are one of our biggest suppliers.

Box 5.7b. How did you come to know the person that supplies you with the produce you use or sell?

HPsa: I prefer to let them handle that and work in conjunction with those wholesalers to target growers who, in relation to consistency, quality, and price fairness of their product, match what we do here locally with our growers. Then we can take a primo grower out of California and in relation to the retail price what we’re charged for their romaine lettuce will be similar to what we can then offer to the grower here because our grower here is getting a fair price for their product. By the same token, the consumer isn’t seeing wild fluctuations in retail price. Unless of course weather is a major factor. I’ve been working on eliminating, wherever possible, anything that I can get people or local growers to do, whether they are here, or up into the other regions that I talked about, to work on storage crops, long term viability, to eliminate having to turn to and be at the mercy of California growers and what may or may not happen at the border in the future. And one of the things we’ve already been able to do in relation to that – and it’s taken us two years to do this – is work out a system between our major apple grower and a couple other growers that complement and supplement what he doesn’t grow enough of. Last fall, when the apple harvest was over and we had our annual apple fest, we stated publicly that CPsa would sell nothing but BC-certified organic apples from here on in. At the moment, we’re working with our onion grower for varieties of onions and storage testing. When we stopped selling his onions in April, he kept some of those varieties aside to see what they looked like when the new crop starts this summer. We’re really hoping that we’re going to be able to go from an onion crop in the summer until the onion crop next summer, selling nothing but BC-certified organic onions. And I’m working on taking potatoes out of that equation too, where we have to turn to California organic potatoes when the local supply dries up. It’s Canadian, BC produce. Why would you want to buy anything else? It only makes sense. For obvious reasons it’s good for local farmers to have a retailer who supports what they’re doing and gives them a fair price, so they’re not at the mercy of a wholesaler saying to them, “I can buy this from California for this price, why would I want to pay your price?” And it also eliminates wear and tear on infrastructure, not just on our side of the border but also on the American side of the border, and reduces depletion of fossil fuels. It’s also stuff that I have to think about internally in relation to our company’s mission and value statements to reduce our impact on the environment.
Question 1.e.i.2: (Yes) Do you know the person that prepares or grows the food your supplier sells you?

By extension of the previous question, do buyers know the person their supplier purchases from? That person could be a wholesaler, broker or grower. For wholesalers and brokers and food retailers and some restaurants, the business ties appear to be long-term, and sometimes personal. For alternative and conventional brokers and/or wholesalers, there can be no one who mediates their relationship with the grower. In these cases the connection is strong and knowledge of their business valuable for both local and distant suppliers. Caterers, most green grocers and most institutional food service buyers typically do not show interest by expending effort to know their fresh produce supplier of their immediate supplier. There seems to be little difference between conventional and alternative food buyers in this respect. With the exception of OBra, in the case of restaurants their knowledge of growers by extension is either non-existent or fortuitous. There is little difference in the case of supermarkets, as all state they have close relationships with many of their suppliers’ suppliers. Box 5.8 shows the various reasons and scenarios buyers (i.e., XJi, FMwa, and IPCa) describe to elucidate the extent of their knowledge of the grower / producer of their supplier.

Box 5.8. Knowledge of producer or grower of their produce

<table>
<thead>
<tr>
<th>XJi: I do not personally know the producer or farmer that grows the food, or rarely do I ask the source. I may ask the origin, which country is it coming from on a need to know basis. Rarely do I need to know who produces or who is the farmer that grows the food...From my experience, most chefs would deal with the wholesaler. I would say most would be happy to get products that they want at the right price. There may be some chefs who put some consideration with where the produce comes from. Generally most of the chefs in UBC want to get the products sourcing through a single phone call or email instead of several suppliers for convenience where everything is under one roof.</th>
</tr>
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<tbody>
<tr>
<td>FMwa: Yes, of course. Our suppliers are the growers. People heard about us and we heard about people and growers would say to other growers you should talk to these guys, so a lot of word of mouth, and then last year we sent out a questionnaire to every certified organic grower in the province. That we knew, besides the one we were already working with that said what do you do, what is your infrastructure like, what do you want to do, would you be interested, this what we do, would you be interested in working with us? We were amazed at how many we got back. About 80 surveys came back. We sent over 300. We were very encouraged. Some of them came back saying we produce hay, that’s all that we do; we’re not going to do anything else. They put themselves on record saying what they do and that was pretty amazing. We met some growers that way, you know, just all by word of mouth. We helped some people get certified as new growers or as conventional growers coming into organic.</td>
</tr>
<tr>
<td>IPCa: The actual farmers, no. Because of the nature of my business, I can’t really guarantee the...</td>
</tr>
</tbody>
</table>

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steady volume to any one supplier. A couple of years ago I had a great relationship with a girl out in Richmond who was specifically growing funky vegetables for garnishes for us. So she was growing corn sprouts, bean sprouts and some very unusual things, like zucchini flowers. But she wasn’t producing enough to make a living out of it. In all honesty, I don’t have the time for it. I’m here 16 hours a day; for me to spend 4 hours on the road creating relationships with farmers – it wouldn’t be cost effective for me. If the contracts exist, then you know exactly what you’re walking into. I’ve been in this business for 30-odd years and here in Vancouver for 13 or 14 years doing the catering. Contracts come and go; it’s the nature of the beast. So you may have only a year contract or a two-year contract, in which case setting something set up like that is perfect. When we did the dinner train last year we got the contract in March and then we started production and putting food and people on trains in early May. So we literally had four and one-half weeks to mobilize for a $2 million contract. You really don’t have a bunch of lead-time on these things sometimes. It’s price driven people driven, so you have to move right now. A lot of the times you can’t get those systems in place in such short periods of time. People can’t react that quickly. Very often that will happen. Another example would be concessions. Concessions for horse shows. A caterer may have planned on doing something a year or nine months out, but suddenly six weeks before the gig they pullout. So now you’re struggling to find somebody to replace them and we’ll step into the breach sight unseen. We’re literally making the decisions as we’re walking into the situation. At other times you’ve got a contract and you know that you have six to nine months setup time, in which case that's great. Yet you see you have other caterers who will have corporate lunch and breakfast business and that’s all they do. They could probably plan one to three years out on what they think they will be using. So if you have a company, let’s say like OLcc, where they have a contract with the downtown campus of Simon Fraser University, they could probably say that they use half a million dollars of this and of that because they’ve had the contract for 3 or 4 years. They can say “This is what we’re going to need in September, and this is what we’re going to need in January.” It would be impossible, based on the history of my business, to give you numbers like that.

Question 1.e.i.3: (Yes)\textsuperscript{75} How does personally knowing your supplier influence your purchasing decisions?

Most buyers agreed that personally knowing their supplier did have an influence on their purchasing decisions. The magnitude of the influence developed over time as confidence and trust grew. Purchasing decisions were influenced by length of service or commitment to a supplier, reliability of quality and fair price, and commitment to ethical, philosophical or mutually beneficial business standards and objectives (e.g. promoting growth of organic industry). In addition, personally knowing one’s supplier influenced their purchasing decisions as flexibility in pricing, delivery, and adaptability to changing business circumstances developed. Some buyers will pay more for produce if they know a supplier can meet their particular needs. Buyer-supplier relationships evolve and can remain viable for many years, and can endure short periods of sub-par standards or performance depending on the strength of that relationship. However, for some buyers, their priority for best pricing and quality over-ride their need for personal relationships with their supplier. For one buyer, confidence and trust were important at the point of purchasing and establishing

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the difference between a good and poor supplier. In other words, confidence and trust had less to do with buyer-defined quality produce than with the administrative and functional mechanics of supplier performance.

In terms of business standards it was noted there was a process of discovery between buyer and supplier over time, to determine the depth and longevity of the business relationship. Confidence developed between supplier and buyer as a result of business standards where pride in product through direct rather than anonymous relationships. There may be a feedback mechanism that builds on itself that reinforces business standards and then practice for a mutually beneficial relationship. Buyers generally understood, particularly alternative buyers, that the reputation of a grower’s business practices was a reflection of personal ethics and level of commitment and trust that can be earned for developing long-term relationships. Personally knowing the supplier influenced buyers’ purchasing decisions and flexibility developed in terms of price, delivery, adaptability, history and in small part, a healthy skepticism.

Confidence developed as a result of…

…service and ongoing business relationships
- Flexibility and service that inspires confidence in a supplier and long-term relationships (ILca)
- Trusting relationships means commitment to a supplier and valuing long-term, win-win arrangements (XMga)
- Local market knowledge means the ability to position oneself to develop relationships (ISha)
- Confidence inspired through an established protocol and follow-through over time (FPi)
- Consistency is a commitment to terms of service for the selection available, price, ease of doing business; quality product necessary to establish a relationship (XJi)
- Visit to personally choose and ensure quality standards are met
- Not just a telephone call and needs anticipated (RRrc)
- Support smaller growers: be flexible to support local producers under production and resource constraints (HWsa)

…quality and price as an influence
- Price and quality, not the person: “Personally knowing my supplier doesn’t really influence my purchasing decisions, for me its quality and price. Knowing the supplier has really very little bearing. Nice people are great, but if the prices are crappy and the quality is crappy it doesn’t do me any good” (TLcc)
- Quality must be there: “I believe that actually getting to meet the people and getting to know the people definitely influences our buying decisions. However if the quality wasn’t there we wouldn’t consider buying from them. As long as the quality is good and the people are good to deal with then I am sure that helps our buying decision” (XMga)
- Quality over price provides a better return on investment (KFrc)
- Relationships as enrichment: “Knowing the people who grow the food or pick the food or deliver the food, to me in some way enriches the whole thing, it sort of creates a circle so I’m cooking it and I know the people who are eating it, and I know the people who grew it. So it’s very much a circle that is I think a very powerful thing, to me it is anyway” (OBra)
…business standards

- Process of discovery for both people involved and what is and can be grown (LCi)
- Developing business standards (i.e., business ethics, employee treatment, business philosophy, mission and goals) is increasingly important (STi)
- Difference between working directly with producers and brokers/wholesalers: pride in having grown a product versus anonymity of distant product (KFrc)
- Commitment to standards that do not necessarily benefit a farmer: “But he’s doing well. Only the middleman makes money. The middleman buys from the local farm, and if they don’t have it, they go somewhere else. Only they make money. Anywhere in the world, the middleman makes money” (RRrc)
- Feedback builds on itself to reinforce business standards and practice for a mutually beneficial relationship: “…when they know that you are going to support them – that you are going to buy their product and give them a fair price and make a commitment to sell that product – then they realize that the onus is on them to listen to me from a retailer point of view” (HPsa)
- Reputation of grower’s business practices was a reflection of personal ethics (FMwa)
- Timely communication by producer is a reflection of his/her commitment to their buyer (FMwa)
- Through value chain of suppliers to customers, developing long-term relationships and promoting organic industry growth must be part of company mission statement (UOwc, see Box 5.9)

Flexibility developed as a result of...

…price

- “The factors that are important are price, convenience of delivery – that would include price delivery minimum” (ROga)
- “Basically it’s cheap. Also, it’s fresher. Especially in wholesale, it’s fresher, so we choose them more” (HUrc)

…delivery

- “I want to have a bit more flexibility with delivery times. That’s one reason why I don’t deal with WWO anymore…So that’s one of the things that makes me favour UOwc” (ROga)
- “I think when you come down to it, it’s a cost benefit analysis…Ultimately I think that flexibility. It’s hard to put a price on it, but it’s worth a little luxury…But flexibility, in this industry particularly, is just key” (XBi)

…adaptability

- Quick response times, ability to adapt to change is very important…We are in the business of serving people food and providing service, we can’t turn around and say we can’t do that…Being adaptable and flexible is very important” (XBi)

…relationships that have evolved...

…history

- “We’ve been here for 30 years, we know these people pretty well. Also, we had a store before, that’s mostly where our contacts were established” (SMra)
- Ability to adapt and be flexible: “…we’ve tolerated one to two years of sub par standards because of a relationship” (YFsc)

…skepticism

- The personal relationship is definitely important…I find at times that the sales world is about using personal relationships to gain advantage…I don’t mean to be skeptical, but it’s part of
their job to develop personal relationships... There are times when I get a sense that there is more to it than that...” (ROga)

Question 1.e.i.4: (Yes) How does personally knowing your supplier influence your relationship with your customers?

Personally knowing one’s supplier also influenced their customer relationships. This was evident in the buyers’ acknowledgement of customer preferences for quality and perceived embedded values within the produce. Quality and embedded values in fresh produce were exemplified as acknowledging customers’ preferences and, in turn, customers expressing trust and confidence that their expectations for service and standards were being met or exceeded; acknowledgement that customer awareness and education with respect to various aspects of quality and personal/business ethics was present; flexibility and adaptability to accommodate customer tastes or supplier circumstances also emerged.

Acknowledging customer ...

...preference

- Concern of contract and function: “...the end consumer is not necessarily the person who is booking the function...So in all honesty, they don’t really care whether the chef has been up at 2:00 [am] up to his knees in mud, picking out the pin-stripe beets for them” (ILca)
- Concern for distance or nature of product?: “I find that since I’ve been dealing with a larger distributor I occasionally get negative reaction to the distance it has traveled... I don’t think if I told people I was dealing with FMwa or UOwc or WW[O] people would have any particular opinion.... If their preferences are for more locally produced product, then I will go with the distributor who has the most locally produced product...[Customers] are concerned about the nature of the product itself, rather than the way in which it got from where it was grown, to my hand” (ROga)
- Have choice and support BC product: “I don’t think we’re going to pay to promote BC products when we can put a sign up ourselves that says BC product, and we will do that. I know we’re going to do that because I know consumers like to have the choice, and I know that a lot of consumers like to support BC products. Especially when things are in season, BC products are usually superior to other products” (XMga)
- Influences what is on the menu (LCi)
- A vocal minority can approach outlet managers to influence purchasing decisions (STi)
- Clients and guests influence the chef to establish a relationship with a supplier who can accommodate the preferences (XJi)
- “They provide fresh food, but they don’t have an influence...They just know that our customers want good fresh fruits [and vegetables]. That’s it” (HUrc)
- “We do a combination of listening to customers and then watching how they react to different offers...we try to interpret their signals in terms of what they want, and then we seek out farmers and brokers, etc. – who can deliver what we believe the customer wants” (YFsc)

...trust or confidence in those expectations will be met by...

- Guaranteeing delivery of highest aesthetic and nutritional value (ISha)

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• Managing expectations and setting clear guidelines of what services can be provided to avoid misunderstandings (XBi)
• Serving food that will be good, even though health of food may not be at the forefront of customer thought (OBra)
• Grower knowing buyer will work to make the relationship work with open communication (HMs a)
• Developing dependable relationship communicating with customers and growers (FMwa)

...demand for product quality
• Product must meet or exceed expectations (ISha)
• Want to produce a high quality product, constrained by budget, but work within client’s budget (XBi)
• Cannot get the cost out of organic from our customers because of high labour rate, so little [produce] is processed here, the purchase price is constraining (ZHi)
• Being honest to supplier about quality does not mean telling supplier customer concerns
• Demand quality: “…That’s what our consumers want and that’s what we’d like to sell” (HWsa)

...need for education, awareness and connection to the produce
• Where and how it was produced: “I think a lot of people have an interest in where it comes from in the sense of where it was produced, who grew it. I think very few people are interested in who the distributor is, who the middle person is. But I find there are quite a number of people who are interested in knowing where something is grown” (ROga)
• Beneficial to the business to learn and take knowledge of produce business to the customer (FPi)
• Address customer taste and personal/business ethics: educate the producer buyer’s mission and vision. Allow producer to recommend alternatives, educating the buyer about capacity and knowledge of product (KFrc)
• Non-political education and awareness that subtly influences customer purchasing behaviour (OBra)
• Feedback to producer about end-consumer expectations: producers have knowledge of product but not necessarily marketing (HPsa)

...flexibility and adaptability
• “Quality then pricing, however, menus are inflexible to change; custom menus can add flexibility to try new things” (TLcc)
• Inflexible menu means we swallow a loss when food costs increase (RRrc)
• Specification for product from supplier: “Hey, this is how we have to see our apples’…; but maintain flexibility to accommodate customer: The smaller grades we’ll re direct so we’ll still have an avenue for that…” (HMs a)
• Flexible to help out established supplier, adjust pricing and move product: “…we’re not averse to bailing somebody out. If they’ve got a lot of product they can move through quickly, we’ll adjust our pricing and they’ll adjust there’s, just to get the product through. We recognize these guys from year to year, and it’s a relationship we’ve established now for nearly 12 years” (HWsa)

Perhaps UOwc, conventional wholesaler, best expresses the influence that customers can have on buyer relationships with their suppliers (see Box 5.9)

Box 5.9. Personally knowing supplier influencing relationship with customers
UOwc: We do a number of things to keep that relationship strong between us and the customers and our suppliers, truly we do. We do promotional activities with them, we also create merchandising materials, information cards that describe the farmer from which the product is
coming from, they can put that up in their store. And any opportunity we have to meet, we create that kind of environment through our social events. Also we have seminars here, we have suppliers come in and talk about their product and educating, and we invite retailers here and other customers too. In-store product demonstrations as well, the retailers like to have a supplier there, if at all possible, and so we try to make that happen. How we bridge the ‘farm-to-table’ part is that a lot of our customers know the farm but sometimes they don’t, so we’ll educate them on the fact that in the winter time, for example, CalOrganic is the best farm to buy broccoli from. We get them used to that kind of brand name and loyalty. And we teach them a bit about the farm. Our banana farmer....she came up here and we invited customers to come in and hear her speak, and they get a better idea of what her land is like, from pictures, and what she is like in her integrity. It bridges that ‘farm to table’ gap. FFpa grows great spinach at this time of year. The farmers actually take a participative role and they take time out from production and come out. Basically we have the events and we schedule with them. Also we have tours. We have had the federal Minister of Agriculture here as well as retailers and suppliers. UOwc is often, because of our facilities and our profile, asked to do these kinds of tours. We coordinate everything.

Question 1.e.ii.1: (No)\textsuperscript{77} In what ways could personally knowing your supplier influence your purchasing decisions? With customers?

Few buyers considered or could reflect on the possible influence customers could have on their purchasing, and by extension, their relationships with their suppliers. This was expressed in terms of product quantity, quality and trust and confidence.

Quantity
- What is important: “You can get that quantity and get a better price. The rest don’t make that much difference I don’t think” (HMra)

Quality
- What is important: “Higher quality and the price is better, too. Well, I think it’s the same quality, but the price is better” (FLgc)

Confidence and trust
- Establishing what is a good and poor supplier, number two is trust and confidence, “I don’t know, except for the fact of trust. There’s always suppliers out there that you know do a very good job, and trust and confidence in that person will influence you to go there, knowing you’re going to get good quality product… I’m very conscious of the fact that the buyers I have in place here buy for the right reason… to me the quality and the freshness has to be their number one, and then of course the trust and confidence in the supplier, number two. Quality, on-time delivery, in-stock… not what they’ve had sitting in the warehouse for four or five days. To me, that establishes the difference between a good supplier and a poor supplier” (VHhc)

\textsuperscript{77}The participant responded negatively to question 1e.
Question 2: By what procedure(s) do you typically source your vegetables?

Procurement procedures were created through relationships defined by established tendering processes and other purchasing protocols, as well as through the formal and informal networking channels where issues of reputation, flexibility, directness, and records of service are communicated about distributors within the industry. Sourcing produce was a simple or complex procedure, depending on the buyer’s specific needs and priorities for their respective business. Relationships that were established evolved or developed through a tendering process and discovery with suppliers networking; reputation and service delivery; flexibility in conducting business and contracting; and, geographic or political considerations together with purchasing for a competitive edge.

Relationships that were established, evolved or developed through…

…tendering process and discovery defined by…

- A balancing act among suppliers for quality and price: With a list of suppliers able to determine balance between price and quality and balancing options (TLcc)
- An organic process: discovering options with knowledge of players’ reputation, farmers’ markets, friends, research and word of mouth; it’s an evolving process (ROga)
- A set protocol of research and discovery: “…my produce buyer…visit the sites of all the wholesalers…look at their procedures…look at the quality of the products, look at the delivery dates and how it would work for us, and then we put a deal together” (VHhc)
- Being noncommittal and maximum purchasing flexibility: “When we go out to tender we do have specs...for our contract we have weekly quotes…Prices are not fixed because they go with the market. For us especially in a retail place…it’s better to go with the market rate. There’s nothing on our menus that say we have to have a certain thing” (ZHi)
- Specific needs: “Like leafy greens, there’s not just one leafy green and we want a specific one. Sometimes that person we go to always has it, so we choose them more” (HUrc)
- Combination of priorities: geographic and geopolitical considerations blended with product and service (e.g., quality and freshness) considerations (YFsc)
- Demand or market shortfall: “We’re just very careful to make sure we have all the certification and quality samples, and a detailed product selection criteria. It has to be vetted by seven or eight people on a committee. Everyone from the marketing aspect and for an operations idea from our operations manager, evaluates in terms of how much it weighs, shelf life, or storage” (UOwc)

…networking

- Reputation: “The food industry in North America is very small. Everybody knows pretty much everybody. By previous experiences on our part or previous experience from other people you will get the word do not deal with so-and-so, they are bad payers, bad quality…they say, ‘I have had this bad experience with this particular company.’ You hear this from maybe two or three people then you are very careful” (LDb)
- Formal and informal channels: cohorts in the industry, sales representatives, customers, farmers’ markets (ROga)
- Direct connections: “…this organic connection is between the farmers some of the other suppliers that we already work with…” (OBra)
…reputation and service delivery
- Ad hoc to scheduled deliveries: Allied [Food Service] substitutes ad hoc deliveries returning substandard product; relationship with warehouse managers and drivers know the quality expected (IPca)
- Length of time in business: unnecessary to source, have one main supplier, growers anxious to approach with products (XMga)

…flexibility in conducting business
- Rely on distributor who sources best: “We buy almost all of our produce through our distributors so that we get that quality and consistency and timeliness of delivery…the distributor stores the product for us; we don’t have storage for four days worth of produce” (ISha)
- License to experiment: “…occasionally, someone will come and say, ‘I’m harvesting sea asparagus from Denman or Hornby [Island], would you like some?’ …we change our menu every week… so there’s nothing in stone, as such, except that we want to know who it is and where it came from” (OBra)
- Menu does not change: recognizes there is demand for more variety and changes take place nonetheless (RFrc)
- Maintenance: on the fresh side it’s usually with relations we already have…if it’s a new farm we go through the process…to build a relationship with them. We stick with mostly our established suppliers” (UOwc)

Other
- Global contracts impede innovation: “We deal with contracts that are global for the university. UBC Food Services arranges contracts for our department and we are a component of them so we, the items that we can’t get, we might choose to go to an independent supplier. We have tried to get certain other suppliers involved with UBC because of the products that they have. It’s tough, because we are not buying the amount that the rest of UBC would buy. Often its specialty items and it’s not on a regular basis” (FPI)
- Spot purchasing for a competitive edge: “Every Friday the produce buyer has the wholesalers he knows to email, fax, and send over all their price lists, he’s already pre-booked the ad-stock for the following week. Then he restructures the prices where every price gets changed every week in the produce departments depending on market conditions. That’s set in stone…There’s one thing that throws a loop into it: he will spot buy. He will visit all the warehouses a couple of times a week and that’s when he can wheel and deal and pick up short dated product, distressed product, or just deals. If something new is coming in, it gives us a competitive edge in the market place; we can often get product into our stores before anyone else does” (HWsa)

Question 2.a: Is this procedure established by official-standard policy?

Respondents answered this question with little variation, saying that there is not so much a policy for their sourcing procedures, as it is their own (i.e., personal/professional) process or practice, established over time for business efficiency. It is official if for no other reason than that as managers or owners in their respective food business they established existing produce sourcing procedures. An exception to this is FPI, where, as an institutional food service manager, must follow strict rules of procurement, policies FPI has little control but is in a position to change if a strong case can be made to do so.
Responses to this question were typified by the following:

- “Yes, it’s standard and long-established as my practice…not really formalised, say on paper. Just routine practice” (ZHi)
- “Currently we do not have an established policy. I do the ordering, I do the menu I also do the cooking. If it’s important to the college I can assist in addressing these issues” (YJi)
- “Oh yes. We do. But it is just how I do things, what I am used to doing” (HUrc)
- “Well, it’s not policy per se. I just do it, it is what I do and how I prefer to do things” (KFrc)
- “Since I am the only person that orders it is an established policy. I think it is pretty established because when I am not here or on holiday the chef does the same thing” (LCi)

**Question 2.a.i.1: (Yes)** How did these purchasing policies become established?

Although nearly no one interviewed had an official policy for sourcing their produce, they were able to describe how those procedures became established or, for lack of a better word, standard operating procedures. Buyers have, through experience, education, personal or professional mandate, lucid produce procurement rationale. The basic elements appear to be that these rationales satisfy buyers’ needs for accountability, reliability and predictability with minimum constraints. A factor that is found in both conventional and alternative procurement scenarios is that there is generally an openness to change if a convincing case for an alternative or additional supplier can be made, and which satisfies a buyer’s business needs and priorities.

The following describe the range of responses, which are as varied as the number of buyer respondents:

- Reputation of service (e.g., length of time in business, reliability) matters (LDb, XMga)
- Cannot be constrained by seasonality (ILca)
- Source does not matter (TLcc)
- Agreement between business partners (FLgc)
- Personal commitment to my neighbourhood (ROga)
- Part of environmental mission (ISha)
- Procurement policy to meet institutional standards (FPi)
- Industry standard (LCi)
- Standard procedure (XBi)
- Dependent on contract (ZHi)
- My way so it’s the company way (HMra)
- Whoever can provide what we need (HUrc)
- Basic ingredient are respected and kept local (OBra)
- Customer’s trust (RRrc)
- Personal knowledge and experience gained over time (SMra)
- Historical relationships – experience and trust gained over time (HPsa)

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78 Participant responded positively to Question 2a.
Buyers have, through experience, education, personal or professional mandate, lucid produce procurement rationale. The basic ingredient appears to be that these rationale satisfy buyers’ needs for accountability, reliability and predictability, ensuring that they acquire what they need, when they need it with minimum constraint. Satisfying these needs can instil a sense of mutual trust between a buyer and seller which can lead to establishing long-term business relationships.

Some buyers show more flexibility in their procurement procedures, but this does not necessarily mean that those procedures are superior. On the contrary, flexibility can be interpreted here to mean less commitment or loyalty to a particular supplier (e.g., TLcc, HUrc), whereas inflexibility can mean more loyalty to a supplier (e.g., ROga, FPI). Either can stifle innovation and adaptation within their respective marketing channel. A factor that is found in both conventional and alternative procurement scenarios is that there is generally an openness to change if a convincing case for an alternative or additional supplier can be made, and which satisfies a buyer’s needs as noted above.

Procurement procedures include consideration of purchasing criteria that varied according to a buyer’s business needs and priorities. These include price and quality; personal knowledge, commitment or connection to an idea, industry, community, supplier; reputation based on experience from long-term business relationships; reputation based on a buyer’s and supplier’s commitment to environmental ethics; and, reputation based on commitment to a buyers’ customers requirements.

...price and quality

- Suppliers standards: “…it depends on the suppliers themselves, what their quality standards are, and what they think the customer expects... Product-wise, if I know something is really cheap, or maybe more accessible and cheaper in Chinatown, than getting it from Yin Brothers, I will. For me it’s price and quality” (TLcc)
- Shopping around: “…went to visit the plant at Central Foods – admittedly we didn’t review specifically where the produce was coming from…So we could get broccoli one week from California and another week from Mexico, and the third week from Chile, and for a few weeks it might come from a local grower” (FPI)
• Large contracts: “Contracts this large encompass so many places they could never get one specification to suit everyone, they’re using other products. No one’s going to go through to standardize it, so that’s where the flexibility comes” (ZHi)

...personal knowledge, commitment and connection to...

• Neighbourhood, community and organic food: “I have strong connections with that neighbourhood... I wanted to start another business, but have a commitment to organic food, because it was just completely lacking in this neighbourhood” (ROga).
• Growing as a wholesaler: “It’s a lot of work growing food. It costs money to get a farm going every year. There’s a lot of joy in it too, and I know that, my husband knows that. It’s never been a question for us to do it any other way” (FMwa)

...reputation based on long-term business relationships

• Money issues can make relationships difficult... quality issues can be worked out (LDb)
• Historical momentum: “Somebody may come to me who is a local organic peach grower, and they may have a phenomenal peach, but on the flip side of that, I don’t know what that peach will look like the next year...There is [not] that historical momentum there in relation to always working with those farmers, and in relation to what it is they’re growing” (HPsa)

...reputation based on environmental ethics

• Conservation of natural resources: “Buying local means being less dependent on other areas; buying local means we’re more aware of the seasonality of the products that we’re consuming; buying locally means there are less fossil fuels that were used to transport the product to us, and also there is less traffic congestion from the vehicles on the highway which has other implications” (ISHa)

...reputation based on satisfying customer demand

• “I had never touched produce before. My job was as a waitress. I learned it after I came to this store. From this five months I’ve learned a lot. I’ve learned how to keep the vegetables fresh, I’ve learned from the customers, and what do they want...” (FLgc)
• “Because we are a full-service caterer, you cannot possibly stay within the parameters of what is seasonally available. For example, we serve strawberries 12 months of the year. There might be one month when we just cannot find them. But if they’re not coming out of California, they’re coming out of New Zealand. We have to have them. There is a demand that has to be filled. Sometimes the quality isn’t great – they’ll be white and a little woody, and the flavor is not particularly great, so in that case you have to get creative in the way you serve them, whether it’s dipped in chocolate or flambéed with Grand Marnier, but it’s what people want. They don’t care that it’s not seasonally available. I have to have a supplier who is able to source fresh okra when it’s none here. I need somebody who can pull in all of those exotic vegetables, as well as the regular day-to-day stuff” (ILca)
Box 5.10. Statement of purchasing policy origins

HWsa: We’re a fairly large player in the local market place, and if we went exclusively with one, it could be detrimental to another supplier, so we try to buy from both sides of the street, so to speak. The pricing is roughly equivalent anyway. We know what their trucking costs are, we know what the stock costs are based on where they are buying. We can generally figure out what their margins are. That’s the advantage of being a retailer because you can see all the way through the chain what others are doing. During the season, we source them directly from the grower. So for instance, we’ll be talking to the guy that grows our pumpkins in the late spring. We’ll say to him we need 50 bins and we’ll get a contract price set up for that early on. Same with the carrot guy and the onion guy and the squash guy. FMwa brings stuff down from the Interior. FMwa calls us and let’s us know what’s available and what’s coming up and what’s likely to be ripe. The benefit for us internally is that they know we’re coming, they know what we’re looking for, and so they find stuff for us. Also, what they send us every day, they pay attention to its quality.

Question 2.a.ii.1: (No) [Then] [w]hat guidelines do you use to source produce?

Two buyers stood out as wanting to define their guidelines as ethical or philosophical issues. In one case, a buyer explained that she sought to maintain a transparent balance in her purchasing of produce between clientele who had concerns about environmental and sustainability issues, with clientele more concerned with accountability of food costs. Others stipulated guideline elements such as price competitiveness, meeting consumer expectations, and valuing availability of produce variety.

Ethical issues and consumer concerns...
- Residents have concerns about environment and sustainability issues balances, however against other residents who are concerned about cost accountability (XJi)
- “…I won’t serve what I won’t eat. If a product isn’t good enough for me, it’s not good enough for you. My policy has been like that for the last 16 years” (KFrc)

Question 2.a.i.2: Do your purchasing [procedures] include sourcing produce directly in the Lower Mainland?

Respondents answered predominantly negatively to this question, most saying no or some version thereof. Others responded ambiguously with statements that indicated an intent or anticipation to include purchasing of local produced fruits and vegetables as a component of their procurement procedures or routine. Still others were inconclusive or conditional. For the remaining, such as LDb, XMga, HUrC, OBra, HMsa, HWsa, YFsc, UOwc and FMwa, it is standard business practice. Not unexpectedly, alternative marketing channels clearly stand out, with most being larger wholesale and retail operations (see Box 5.11). Many respondents, mostly conventional buyers, answered this question, simply saying “no”. Some responded ambiguously with statements that indicated an intent or anticipation to include
locally produced fruits and vegetables as a component of their procurement procedures or guidelines. For the remaining it is a standard business practice. Not unexpectedly, alternative marketing channels stood out, with most being larger wholesale and retail operations.

Box 5.11. Statement of sourcing locally in purchasing

| LD: We anticipate more contracting directly with growers where planning, growing, scheduling, planting and harvest are predetermined, from seed to processing and trucking to selling. Our end user is retail and distribution. In the future I want to expand by purchasing entire farms to have land to create greater financial security, better control the company's destiny while lessening our dependence on the skills, conditions or market support for/of farmers. We will work with growers in Delta because we know each other’s reputation. Trying to get more of product from Delta such as beans, pears and blueberries in Delta and Richmond. We have a long-term relationship with BNpa with all his 300 acres of beans... Food is entrusted to the buyer, so reputation, confidence and trust is everything. There is little room for opportunism that contravenes the trust relationship between buyer and producer. |

Question 2.a.i.2.a.i: (Yes)°79 What is this [procedure]?

In describing their procedures – which typically involved contacting one supplier – buyers inculcated their purchasing criterion with elements of value such as commitment to quality, knowledge of suppliers, reputation of consistency, their personal business ethics and that of the supplier, and efficiency of labour, time and financial resources. Buyers also inculcated elements of sustainability bound with concepts of “local”, “organic”, and “certified organic”. Some buyers, typically alternative buyers, had already established direct and indirect purchasing arrangements with farmers within the Lower Mainland.

It is based on elements of value such as...

- Resource efficiency: “From a buyer’s point of view, purchasing more directly from producers is an option. But it would have to be time-efficient and cost-effective” (ILca)
- Commitment to quality: “…I’m not going to buy from everyone who knocks on our door because I will not get consistent quality... Knowing the farms, how they handle it... to actually get the product cooled down to the proper level for holding quality, is important” (VHhc)
- Knowing suppliers [exclusivity]: “There are things that I buy only from certain suppliers. I know the quality is better so I’ll pay them a little extra” (LCi)
- Consistency [reputation and benefit from long-term relationships]: “They’ve always grown it that way. Other people buy from them too... When you know somebody for many years...you know what to expect (SMra)
- Personal or business ethics: “It’s more philosophical…” (OBra); “We try to go with the farmers and the growers that we’ve used all along. We have a firm corporate belief that ‘you dance with the one that brung ya.’ You don’t switch horses in mid-stream and you don’t have a guy who’s been growing apricots for you for five years and [suddenly say] “no thanks.” That’s not who we are, and it’s certainly what we’re trying to engender in our marketplace. We want

°79 Participant responded positively to Question 2.a.i.2.
everyone to be stable. We want this guy back next year, we want him to grow product for us” (HWsa)

It is based on elements of sustainability such as…

Organic

• “Buying locally, does that help the health of the food, I don’t know. But if you want to add the organic dimension into it, yes, that becomes one of the reasons why we buy organic produce, and we’re unlike HMsa or HWsa, which sell both organic and conventional; we only sell organic produce” (Isha)
• “Our produce team would like to be 100% organic within two years at the latest… on organic farms you will not find – obviously – chemicals or sprays happening so they’re not working in it or harvesting in it… That’s a major influence on [which countries] we buy product from” (HMsa)
• “They first have to be certified organic and we need to get their updated certificates, so that’s an absolute requirement” (UOwc)

Buying is based on prearrangements or preference with growers…

• Hierarchically: “We do have a buying policy, which clearly states that our produce buyers – directed from our policies in our regional office – will preferentially buy local organic, foreign organic, local conventional, and then conventional from either California or Mexico… We shy away from products from South America where we’re not sure of the growing practices and labour safety” (HMsa)
• Not speculatively: “Unless they are a different variety… nobody is going to go out and plant a quarter-million pounds of potatoes just on spec. They need the confidence that it’s already sold. If people have extra stuff…” (FMwa)

Question 2.a.i.2.b.i: (No) Under what conditions could you source directly from producers in the Lower Mainland?

Conventional buyers stood out as answering unfavourably to the Question 2.a.i.2. (Do your purchasing [procedures] include sourcing produce locally?) Thus, conventional buyers dominate in answering this question. Together, price and resource efficiency stood out as salient conditions that they would consider in sourcing directly in BC’s Lower Mainland. For the only alternative buyer, the salient conditions centred around the need for greater or facilitated communication with growers to know who they are or what is available. Some buyers indicated they were concerned about the price sensitivity of their customers, that sourcing locally would mean less reliance on pre-processed produce and increased costs making their menu unaffordable. Buyers could see themselves source directly from producers in the Lower Mainland based on their current contractual obligations by considering new tendering criteria; best value for price; resource use efficiency; quality;

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80 Participant responded negatively to Question 2a.
price sensitivity; and, niche markets. The following are abridged versions of those that responded to this question as described.

Based on our current contractual obligations we would have to consider...

...new tendering criteria...
- “We definitely could take a more pro-active stance – we have a little bit with UBC Farm… that wouldn’t be a problem from a contractual obligation point of view. But we want to work with Central Foods…Maybe in the next tendering process, for example, we define the criteria that are important, and we rate it, and that’s how we go through a tendering process…We probably need to make one other criterion that local produce is used in advance of imported produce…” (FPi)

...best value and price...
- “I don’t sell organic. It’s too expensive. So far the people who live on the east side [of Vancouver] can’t afford it…” (FLgc)
- Value for whom: “I don’t know what the market would bear in terms of saying, ‘this is locally grown and locally grown produce costs 15 percent more, therefore, the cost of the apple we’re selling you is 15 percent more….’ The largest component of our market is looking for the best value, and the best value is often tied to cost and price…” (FPi)
- “…better cost. Unfortunately, I don’t think this is a viable situation for me; I have no contacts (HMra)
- “The producers don’t have time. They have a long day. They don’t have time to deliver directly to the restaurant. They’d rather have someone to go to their site and buy. That way they don’t have to worry, they can concentrate on farming…” (RRrc)

...resource efficiency...
- “To purchase specifically locally, to be something that can make a difference for our place…I don’t want to spend $400 a year on a contract… it would have to be something we can get quite a use from” (ZHi)
- “Price is important… We make fresh soups daily…It would be difficult for someone to approach us. Someone [else] would have to somehow organize it. You don’t want a million producers calling… It would have to be more organized… then I could have one contract, getting it from many locals; that’s a possibility” (XBi)
- “I am sure it would be a benefit, but right now I don’t think it exists… If there were something set up such that there was better communication that could network people that would be helpful, but there isn’t. So it’s tough to do it yourself. It’s quite expensive actually” (HMra)

...quality...
- “One thing about the local….usually not easy to keep… The local vegetables don’t last longer for the price that you’re paying. I waste a lot. The wintertime I save my money because it’s from the U.S… The vegetables are different too, they are shiny and green. It’s different. They last longer. Look fresher. Our produce comes directly from the farm [in the U.S.]” (FLgc)

...price sensitivity...
- “Ideally for a place like the [CC] our goal is to break even… Because it’s customer driven, we’re in a place that where people are extremely price-sensitive. Although [customers] have proven they will pay for quality, it is still a hospital and people expect a fixed price for something” (ZHi)

...niche markets...
• “It’s a challenge for us to introduce more ethically produced products that have a higher cost associated with them. It is a bit of a difficult sell, but it does meet a niche market right now.” (FPI)

**Question 2.a.i.2.a.ii: Why does this [procurement procedure] exist?**

In answering why their procurement procedures for local produce exist, respondents reiterated many of the same aforementioned elements. However, three encompassing reasons emerged. First, from the standpoint that purchasing local produce makes sense business-wise, buyers exercise personal initiative and knowledge to ensure quality standards are observed. Second, buyers express personal beliefs and values with regard to their commitment to environmental health, sustainable farming, ensuring important ethical issues are observed, and preferences based on cultural background and training are respected. Third, and largely a phenomenon within the wholesale and broker marketing channel, is an overarching commitment to organic produce such that, in at least in one instance, the buyer goes to great pains to assist growers to plan their crops and market their produce.

Respondents provided the following reasons why their procurement procedures exist:

- Makes good business sense (LDb)
- Prefer Canadian product, it is an option (TLcc)
- As an option it must be time-efficient and cost efficient (ILca)
- Organic produce does not keep (FLgc)
- Personal belief, strong political commitment to sustainable farming, makes sense business-wise (ROga)
- “Simply, BC produce is superior in quality (XMga)
- Access to direct personal knowledge ensuring important ethical issues are [observed] (ISHa)
- Can exercise personal initiative ensuring…that standards are [observed] (VHhc)
- Personal experience and knowledge helps consistently maintain product quality (VHhc)
- Expression of personal philosophy and beliefs (OBra)
- Menu dictates what is needed (HUrc)
- Preference based on cultural background and training (KFrc)
- Mission values and environment (HMsa)
- “How much do your morals cost? It’s not isolated to [produce]; it’s everything else in our business” (HWsa)
- Important to family and business image (YFsc)
- Differentiates us from the larger chains (YFsc)
- “…knowing that they need to produce 3000 cases of broccoli or 2800 cases of lettuce each week, they can plan their production accordingly, [as well as] their infrastructure, their lives, their crew, the training, and the field layouts” (FMwa)
- Committed to organic…ensure our customer receives organic (UOwc)
Question 2.a.i.2.a.iii: Under what conditions could the proportion of local food product you purchase increase?

Buyers that expressed an interest in increasing the proportion of local produce in their purchasing, reiterated the many of the same criterion already mentioned, notably, cost effectiveness and time efficiency, timeliness and reliability of delivery and consistent quality. Importantly, however, several buyers indicated that to increase their purchase of local produce one or more of the following would need to exist: an increase in farmers growing certified organic; access to knowledge about the producer; development of trusting business relationships with producers; understanding of educated customers’ willingness-to-pay; facilitated producer access to a comprehensive set of infrastructural support services; and expanded opportunities for season extension. One buyer, a broker, noted that he was planning to expand his proportion of local produce to wholesalers and processors by purchasing and running at least one additional farm.

- Expand by purchasing entire farms (LDb)
- Cost effective and time efficient (Lc)
- Timeliness of delivery (TLcc, YFsc)
- Reliability of delivery (YFsc)
- During growing season (TLcc)
- Better shelf-life (FLgc)
- It has to be economically (i.e., business) viable (ROga)
- Quality must be consistently present (XMga, SBi, HWsa, YFsc)
- Increase farmers growing certified organic – currently a barrier (ISHa, HMSa, UOwc) (see Box 5.12)
- Knowledgeable of the producer (VHhc)
- Be able to develop a trusting relationship (VHhc, YFsc)
- Meet procurement standards (FPi)
- Through distributor/wholesaler (LCi)
- Educated student body (STi)
- Understanding of student willingness-to-pay (STi, ZHi)
- Demanded (XJi)
- Special occasions (XBi)
- Pricing (XBi)
- None: “…if you start doing things your way you will spend too much time and too much money. It becomes too expensive with too many suppliers” (HMra); “It’s our desire for freshness it’s quality and price. We don’t attempt to purchase a greater proportion within BC” (HUrc)
- Greater season extension assuming price was right (OBra)
- More hydroponics: “…because they can grow organic very well and very nicely…” (XMra)
- Provide services: “Providing as much infrastructural support as possible to ensure we have product here for our customers when we need it” (FMwa)
Box 5.12. Conditions for changing local produce purchasing

HPsa: I see it happening in relation to taking the apple program even further and expanding on that in relation to more varieties; working with the onions and potatoes; working with current farmers and expanding our farmer base in relation to storage crops so we can sell BC organic carrots right into April. We can do things like storage beets and parsnips and turnips and rutabagas and winter squash that people want to eat until the end of March and into April. It’s going to take a lot of effort on our marketing department to produce the tools and the information for the consumer, and for our staff to can answer consumer questions correctly and confidently.

We have to make a choice about how we want to make a statement and a stand about the foods we're going to sell. It's also important to educate consumers about eating what is locally grown and locally produced. They should understand that the cycles of food production are linked with cycles of nature, and recognize that food production is vastly under-appreciated... [They need to ask themselves,] "Is it important to eat a nectarine in March?" As actively as we can be we take an active role in educating consumers. It’s a line we tread very carefully. We don’t want to be patronizing or condescending to our patrons. By the same token, we want them to be aware of things like how that potato got to their plate. [A person] can choose by knowing that they're supporting a local grower, or buying a generic potato where they have no idea who grew it or the practices it was grown it under. It’s about making a choice.

**Question 2.a.ii.2: (No) [Then] under what conditions would purchasing directly with local producers become an option for your business?**

Pursuant to guidelines utilized to source produce, business resource efficiency figured large. For example, buyers considered the ease of accessing a single distributor above the perceived difficulty of approaching one or more producers directly. Other guidelines include the assumed price difference between grower and conventional distributor with an established distribution infrastructure, addressing and educating consumer expectations and appreciation of seasonal availability of produce, and access to reliable information about availability and variety of local produce. However, buyers would purchase directly from local producers if conditions of resource efficiency; price; variety and availability; access to information; and, reliability, certification and trustworthy information were met.

**Resource efficiency...**
- “It’s definitely easier to go to a distributor. They are the ones sourcing from local suppliers or local farmers. [It's difficult] for a chef or a small place like us to approach a producer. I’ve never tried it. Of course, I think it’s the way to go, providing that the farmer has their own system or policy to ship products, have a good ordering system, are able to provide a credit line, and carry the products that I need. Then it would be much easier, like a cooperative set-up whereby a few of them get together and source the products to sell to people like us... The other way would be to go to a local market. But you need to have the commitment, time, resources, and cash to pick up their products. Some restaurants can do that but not us” (XJi)

**Price...**
- “…the amount of products that our distributor carries and the resources that they have in terms of trucks and the routes. It is viable for them to sell it to us at a lower cost. If you have
producers who are able to do that, then I guess it would be much easier for chefs like us to use it” (XJi)

Increase variety and product availability...

- “If local growers would grow more variation, more local product and more organic, then we could purchase from them, and I wouldn’t even buy from [a distributor]. Anything from A to Z in vegetables, fruit, produce…” (KFrc)

Access to information...

- “I think the onus is on those farmers to come out and sell their products. We could source them, but you don’t know where to start. You need people to point you in the right direction and say this guy is doing this, able to sell this, and is able to bring this to your doorstep” (XJi)

Reliability, certified, trustworthy information...

- “I think more chefs would be interested in an online service to access a central source, one that is reliable and certifiable and trustworthy. If it’s easy, I think they would jump in and do it to help the local economy and the local environment. If it’s easily accessible, the prices are fair, and the product is good” (XJi)

**Question 3: How do you dispose of produce waste from your operations?**

Buyers have one or more avenues by which they distribute produce declared not salable. Surprisingly, many compost by traditional methods or through a regional commercial composting service. Some buyers have several avenues arranged in an order of priority depending on the edible or useful nature of the produce. Many buyers, especially those in the restaurant, institutional and catering channels purchase preprocessed produce from their suppliers eliminating, with the exception of post-consumer organic waste, the need to compost or dispose of waste as refuse. Those who did not recycle, but wanted to recycle their waste, said they lacked the capacity or knowledge to process or enlist a commercial composting service. How buyers do or do not dispose of produce waste was a matter of logistics and defined by elements of separation and processing, their capacity to process refuse and compostable materials, and a matter of hierarchical disposition. Below are select abridged statements that explain the various rationale and methods buyers ascribe to how (and why) they distribute their un-salable produce.

- Not an issue (LDb)
- Composted (ILca, XMga, lSha, FPi, LCl, STi, XJi, OBra, XMra, HMsa, HWsa, YFsc, FMwa)
- Garbage/Refuse (TLcc, VHhc, STi, XBi, ZHi, HMra, HUrc, RRrc)
- Hierarchically disposed: (FLcc, ROga, LCl, UOwc)
- Recycling – commercial composting - service (XMga, XMra, HWsa, YFsc)
- Farm animal feed (lSha, LCl)
- Donated (HMsa)
• Unharvested or does not leave the farm (FMwa)

It's a matter of logistics, which is defined by elements such as...

...separation and processing...
• “There’s a lot of concern about hazardous waste so there would be a concern to keep it separate. There’s a lot of separation that goes on outside of here, but we are in a big place, and for one little area to be doing something different [it wouldn't make sense]” (ZH)
• We’re working with campus Waste Management on developing that again…raw product is coming in to our supplier and they are then preparing it and removing a lot of what would be the wasted product… So post-consumer waste is where we’re going to get a lot of value out of a composting program” (FP)
• “The problem is our [produce] comes from wherever… farmers would have to be certain that what they’re getting back from us is 100% certified organic food waste. Since we’re a crossover store and sell conventional produce, we couldn’t ensure 100 percent organic…” (HW) (see Box 5.13)

...capacity to process...
• “There are probably ways to do it, but we don’t… when it comes to food waste, like that from plates or produce, I have no way of recycling it. If I can give this waste to somebody I would” (HM)
• “It just goes to the [organic waste] bin… I try not to waste much, only what is left over from the customer” (RR) (see Box 5.13)
• “I actually talked to one of the produce suppliers about picking up and delivering simultaneously. The truck is there anyway… the back haul is empty… The trucks are refrigerated… one stop would pick up all the stuff; he could save us all a bundle of money” (HW)

...a hierarchical process...
• “The first thing is, an item close to second grade is put it at a lower price until it cannot be sold. If we totally can’t use it, it goes in the garbage. But sometimes you can use it as an ingredient or some people come in to ask for something to eat. I like doing that. I don’t waste food and I can help a person” (FL)
• “Spoilage is a hard issue… very little food gets to the point of being waste… There are three ways that I would tend to deal with food at that point. Either take it home, share it out with my employees, or donate it to the Vancouver Food Bank… It never gets thrown away. If I must I take it home and compost it” (RO)
• “We separate all of our food into two categories: one which we call ‘Quest Outreach’, which is suitable for human consumption… the other bin is not fit for human consumption and we call it ‘compost’. We do accounting of the compost and we donate all of our compost to our organic chicken producer so that when he drops off our eggs” (ISH)
• “Anything that is at all salvageable or edible, we give to the Vancouver Food Bank. Anything that is re-sellable, in most cases go to Liquidation World or a similar place” (VH)
• “Well, what we shoot for is that for anything that is not saleable doesn’t come off the farm. Twenty to seventy percent of that cost can be harvest labour. So if you have a crop that’s not looking great, and we can’t sell it for process grade… we don’t harvest it. It’s a loss for the grower, but it’s not a loss that’s been ballooned up… Between eight and thirty percent is normal for grading loss. With apples it’s not so much of a problem cause of the huge juice market… Pears, peaches, apricots, those all get dumped in the compost… Certainly with vegetables, lots of it just stays in the field. If that product is in decent edible shape, and none of our buyers will take it at discount, then it goes to the soup kitchen… If it’s decayed, then that goes to compost at the chicken farm. So from field to the very end, that’s of our system” (FMwa)
• There is probably a very small percentage of our inventory that becomes non-saleable product. We have several avenues for that, depending on the state of the product. We often give it to charities... If it’s compostable, we work with a recycling company... We also have an organic pig farmer who picks up every Wednesday. We have another avenue with a dehydrating company…” (UOwc)

However, there were only a few buyers that had no avenue established and considered their compostables as simply refuse:

It is considered to be...

...refuse...

• “It’s not composted. It goes in bins and its garbage. There has been an interest in getting a composting program going on campus. UBC Food Services attempted to start it in some areas, there are some logistical challenges in keeping food scraps around. There are rodents that can cause health issues. If there is an organized composting program with regular pick up we would absolutely get involved with it” (XBi)

• “We have hardly any wastage because we buy a product that is already top quality. The wastage that is left from the customers goes in the garbage” (KFrc)

Box 5.13. Food waste disposal

RRrc: … the worst thing for the restaurant…is the buyer. People who order the food [for us] don’t know how to judge good quality. Can be they just come in and, bang, in the garbage. Then the food cost shoots up. Like in the big hotels, you have to be an accountant too, not just an artist but an accountant too. That’s why you have to be disciplined. If you don’t know what you need then it’s a big waste. After three to six months, or a year, it adds up. It becomes easier if we’re purchasing every day. Some days I have a long shopping list. Some days it’s shorter... I have a list every day in the kitchen. When I go in the fridge I pick up the green onion and mark it down. At the end of the night I finalize what’s missing, so that way you have [inventory] control and... I learned that in Europe where everything is very expensive.

HPsa: Well, anything that we can no longer direct sell through our produce department we can approach our production kitchens in each of our stores and say, “Are you able to use this product?” [Otherwise] we work with charitable organizations when anything that is no longer saleable... then we compost it. We’re still working at getting a composting system at this store, because there is not a lot of service on this side of the city, but our Robson store and our West Vancouver store both compost organic matter. The composting isn’t on location; we work with Encore Waste Management and Urban Impact. Encore does our glass recycling; Urban Impact is the compost. Even though many retailers and even some staff look at it as being more of an inconvenience, we encourage all of our customers to recycle at our stores... We used to have a couple of young ladies who used to work at our Robson store who started a worm-composting thing out of compost from the Robson store, but they were doing it at home, and then they brought that in and it was an educational thing for the customers to see what could be done with food waste instead of just throwing it in the garbage can.

Question 3a: Under what circumstances could you see yourself recycling your food waste if you were sourcing more directly with local producers?

Buyers indicated that there were circumstances where they could see themselves recycling food waste if the following concerns were addressed: adequate space to temporarily store...
waste; potential food safety and sanitation issues; strong, direct relationships with producers; if knew they had a positive environmental impact; and, alternative options were practical and easily accessible.

Issues of adequate space are met…
• “You definitely need the space, and for us space is an issue” (TLcc)
• “If we had the space we would probably do it. But at XMga, space is limited. It would have to be set up similar to what we are doing now, where we would dump it in a container and they would pick it up” (XMga)

Concerns about sanitation are met…
• “Right now we’re unable to recycle in any way, shape, or form. We kept these bins outside until we could ship them out and found that we were attracting rodents, birds and pigeons… Someone is going to come up with a clever method of doing this” (ILca)
• “I’m very picky about sanitation and cleanliness. [Cleanliness] is something I take pride in, keeping a clean atmosphere.” (TLcc)
• “It would have to be something that is cleaned, then we would definitely consider that.” (XMga)

By facilitating composting…
• “The dry bin is recyclable and is passed on that way. The wet bin goes to compost somewhere. We have a company that picks it up for us. So all our wet product goes into there. I do not know where it goes. We’re tied in with one of the local management waste companies…” (VHhc)
• “Now, 100 percent of our food waste is composted. We’re now part of a project that UBC Waste Management has put into place. It’s in all of our food outlets and it’s an in-vessel system in North Vancouver. They are supplying us with the bins and picking up three times a week. We went from eight to ten bins because we are filling them so frequently. They are in the prep areas of all of our outlets and we hope to slowly introduce them to the consumer areas…” (STi)

Environmental impact…
• “One of the things that alarmed me when I started visiting [farms]… was the amount of plastic that farmers were putting down to provide heat to the plant, and to reduce their labour costs in weeding. They’re [supposed to be growing food] to reduce their impact on the environment through not only good farm practices, but also the impact on themselves…” (HMsa)

Establishing strong, direct relationships…
• “I’m in the process of supporting another organic distributor in the Fraser Valley, FMwa. FMwa sells, markets and distributes only certified BC organic produce. FMwa is currently trialing a recycled craft paper to keep the heat units in and is biodegradable. When we’re ready to share it I’ll take it to the growers who are currently using plastic, to replace it. It goes right back to the very beginning about establishing the relationship with the grower of trust, confidence and reliability and accountability. When you display all of that to them, and you help and encourage them, then they will gladly listen to what it is that you have to say, because ultimately they know if I don’t have people walking through my doors to buy what it is they want to sell to me, then we’re all hoped” (HPsa)

Openness to alternatives and opportunities…
• “If things are accessible and made more practical, then definitely, why not? I’m all for the environment” (TLcc)
• “If I had waste, it would be great to call a local company that collects organic waste but it’s not even necessary” (ROga)
• “I would say these issues are personally important to me and as a department we are taking them seriously. I hate to admit that we’ve had some challenges to implementing some of the things we’d like to implement. It’s a bit frustrating…we’ve got to be a bit more creative in being able to do all that well and producing a more sustainable environment.
• “It was a good relationship [with UBC Farm]… to at least try to lessen the waste going away. I would do it again” (XJI)
• “If there was a company in town that would provide us with a clean container and pick it up on a strict regular schedule. That would be feasible. That is not really complicated” (HMra)
• “I hadn’t thought of the idea of us bagging it up and them just taking it… I’m sure they’d value it. Farmers are very conscious of things like that, so I’m sure they would be totally into it” (OBra)

Producers' Responses

Question 1: What is your personal experience with marketing your produce?

Conventional producer experience with marketing produce included farm-direct and brokered contracts to local processors through the BC Vegetable Marketing Commission, accessing wholesale channels, farmers’ markets in the Metro Vancouver region, on-farm retail, and the Lower Mainland Vegetable Distributors (LMVD) - a cooperative agency. Alternative producers noted experience with a variety of channels as well. These include farm direct to individual retailers such as grocers, restaurants, and delivery services; wholesale, vegetable broker, farm gate sales and farmers’ markets. Most used the Farm Fresh Guide to advertise, as well as having participated in at least one farmers’ market. Many participated in more than one market channel.

Conventional producers
• Do not market to consumer but market to local processor…All of this crop is sold under contract to the local marketing commission (GNpc)
• Wholesale and farmers’ market, and retail, with about 15-20 years experience (GRpc)
• Successful has been direct marketing and farm direct, wholesale channels (IOpc)
• Market through the LMVD, not the fresh market, cooperative agency (see Box 5.14) (OBpc)
• Variety of channels: Farm direct and through on-farm store; in the past, Lower mainland Vegetable Distributors, Cloverdale Lettuce Cooperative and BC Vegetable Marketing Commission (OSpc)

Alternative producers
• Variety of channels: individual retailers, restaurants, or people at farmer’s markets (FFpa)
• Farm direct (RGpa)
• Variety of channels: CSA, wholesale, vegetable broker, direct marketing, delivery services, grocery store, farmgate sales and farmers’ markets; using the Farm Fresh Guide; attending Aldergrove Health Fair; Bradner Flower Show (JVpa)
• Farmers’ markets, farmgate sales, direct retail (AVpa)
• I sell produce directly, at the farm centre (RBpa)
• Wholesale, farmers’ markets, competing with the US for market price (RFpa)
Box 5.14. Identification of Experience

OBpc: Well, on the vegetable side we have a company set up with a bunch of local growers and we market all our potatoes through that marketing company. It’s called Lower Mainland Vegetable Distributors. They also market other root crops: turnips, cabbage, parsnips, carrots, all the root crops, storables. It seems to be working quite well. I think this last year the Lower Mainland sold over 30 million dollars worth of produce. And that equated to 55,000 tons I think. That’s off the top of my head. I may be wrong but it’s pretty close to that. On the blueberry end of it we sell mostly to a processor. We don’t play in the fresh market; it’s a little too volatile. We mostly sell all our product to one processor: Berry Hill Foods in Abbotsford. Last year we sold them around 200,000 pounds of blueberries. I’ve been in it my whole life. Blueberries are something we got into 13 years ago when we started planting. The last five years we’ve started reaping the seeds we planted quite a few years ago because it takes a while to get the bushes up and going. Two years ago there was a huge problem with rot and mold, which pushed the price up, but if you didn’t have good fruit, you didn’t have a place for it.

Question 1a: In a general sense who are your buyers?

Conventional buyers accessed a variety of local market channels. They identified long-term relationships with processors in the Fraser Valley such as Lucerne Foods, Snow Crest and Berry Hill Foods. For wholesale, several conventional producers accessed the major retail chain store distributors across BC, Alberta, Saskatchewan, Manitoba, and the United States (e.g., Safeway, Save-On Foods, Canadian Superstore and Thrifties). One grower interviewed shipped direct to an international processor in Russia. Several growers sold to people in the Vancouver, Langley and Surrey areas through community farmers’ markets. Two growers had storefronts on their farms selling fresh produce directly to people in their surrounding communities. Of these, one grower also partnered with a home delivery service that sold produce to its membership in Richmond, BC. Alternative producers seldom relied on one market channel, especially wholesale, for revenue. Thus, most alternative producers sold retail to end-users at farmers’ markets and at farmgate in their respective communities such as Vancouver, Abbotsford, Langley, and Aldergrove, and near suburban developments such as Morgan Creek. All producers sought to attract buyers through the Farm Fresh Guide. Several growers accessed restaurants, home delivery services, and alternative grocers, selling to them directly or through a wholesaler/broker.

Conventional buyers

- “We have three processors who I regularly deal with in the Fraser Valley: Lucerne Foods, which is a subsidiary of Canada Safeway, even though they take all of their instructions out of Oakland, California. Then we have Snow Crest. I’ve been with them now for 40 years, and I’ve been blacklisted...Lucerne and BC Frozen” (GNpc)
- Retail, farmers’ markets, wholesale market in Vancouver, Langley and Surrey (GRpc)
- “They are just families mostly, yuppies, young people who are fairly well-off who have young children and are interested in getting good, flavorful food. A second group would be
pensioners, who have time to shop and like to go out and buy small amounts of things every few days. I have some people who come by almost every day in the summer” (IOpc)

- “On the vegetable end, we sell to all the big stores: Safeway, Save-On, Superstore and Thrifties. The Safeway’s, Save-On’s and Overwaitea’s export to the prairies. For the blueberries it’s just Berry Hill Foods” (OBpc)

- “Commercially, my buyers are all the major chain stores: all across BC, Alberta, Saskatchewan, Manitoba, as well as down into the United States: Seattle area and further… We have shipped to Russia in the past and other foreign places. With my farm store, my customers are walk-in people within the Surrey neighborhood” (OSpc)

- “Our buyers are wholesalers, retail chain stores, US distributors and home delivery” (XHpc)

Alternative producers

- “The restaurants, processors, and farmer’s market; I think that pretty much covers the whole spectrum” (FFpa)

- Farmers’ markets. “This farm is owned by about 72 shareholders – I still see such a potential to have the shareholders work in some kind of CSA. To buy the vegetables from the farm that they own shares in. Some of them come to farm gate sales but not very many. It would be nice to have the shareholders who don’t live here to spearhead something” (AVpa)

- “Farmers’ markets, restaurants, delivery services, Farm Fresh Guide (never spent money on advertising, always by word of mouth), FFpa farm gate sales as well and they are basically catering to the same community we are. They are off towards Aldergrove. They’re in the same sort of situation with people coming from Abbotsford, Langley, Aldergrove… We had people coming from White Rock when the farmer’s market closed. I went to White Rock farmer’s market, we finished marketing there at the end of November, and as long as we had product, we had people coming out and picking up produce” (AVpa)

- “I sell to Home gardeners, large and small commercial growers, and retail garden centres. For produce we sell here at the farm gate. We have sold some through Grow Organics, FMwa, to the UBC South Farm” (RBpa)

- “I work closely with SB at Wild West Organics…farmers’ market[s]. But if I was relying all on the wholesale I would have been in big trouble… They feel obliged, but what it is, they sell a lot of home deliveries. If I were in a position to do processing, fine I would process it” (RFpa)

- “The area is Morgan Creek; there’s a large development going on here; it’s huge actually, many acres and thousands of new people who are moving into the area every couple of years. So I guess location has a lot to do with it as well” (RGpa)

**Question 1b: Why has a buyer chosen to purchase from [you]?**

Nearly all conventional producers interviewed stated that their buyers purchased from them because they provided unique varieties, consistent quality and supply (i.e., volume and timely delivery), and price. Several producers who had on-farm retail sales operations stated that buyers purchased from them for the desire to purchase direct and to see the produce being grown. For at least two producers visiting a local farm and buying produce was understood to be a local family activity. As such, their farms could be found in the Farm Fresh Guide and/or the Fraser Valley Farm Marketing Guide. Two producers stated that quota ownership, and the fact that one had the appropriate equipment and capital, were the main reasons their buyers purchased from them. Alternative producers had many reasons similar to conventional producers why their buyers purchased produce from them (i.e.,
consistent quality and supply, and unique variety). On the other hand, these producers consistently noted the value of organic produce and the direct communication available through direct marketing channels. Several noted that they provided, in addition to produce, a service by exchanging information on how their produce was grown, who grew it, how it was prepared, and acquiring the knowledge of what their buyers wanted.

Conventional producers

- Had appropriate equipment and capital to plant and harvest green beans for processing (GNpc)
- Fresh produce; varieties not available elsewhere: “We carry Nat’s carrots...which most stores don’t carry because they’re too brittle... We sell some of the older varieties of apples that you can’t buy in the store; nostalgia and desire to purchase direct: “people who just come because they like to buy from a local farm where they can actually see the produce being grown”; family activity: “they’ve never been on a farm themselves and this was their first chance. These are local folks in Langley, Surrey, Vancouver, and Richmond... the majority would be within about 20 km”; we advertise: we advertise in the Farm Fresh Guide for Langley, and in the Fraser Valley Farm Marketing guide” (IOpc)
- Have variety of product sought by Berry Hill; quality; capital and equipment: “they have all the modern machinery to clean and do all the stuff they have to do”; pricing (OBpc)
- Have quota: “the buyer, at that point being Lower Mainland Vegetable Distributors, has to buy my product because I have quota”; fresh product: price; purchasing from local family farm” (OSpc)
- “Good, consistent quality, reliable label, consistent supply, good communication with our customers...” (XHpc)

Alternative producers

- “Partly because it’s organic [satisfying customer mandate to buy organic and locally]... It’s consistent supply, quality and service” (FFpa)
- “One thing about having different quality of organic though – because some people can’t afford our stuff – is that at least at East Vancouver Farmers’ Market when there is a difference in quality and price every body has a chance to buy organic” (JVpa)
- “Our stuff is the best. Our produce is really, really good... We just do really good stuff... I think we’re also very personable people, so when they come to our farmer’s market stalls, we talk to them, we have ideas for them, we know how to prepare the food – we’re all good cooks... Our stuff is a bit fresher. I think that’s the thing: there’s something for everybody. That’s important for us because we have to charge the prices we do. It’s what pays our way. I mean we’re putting the effort into bringing something really good to market, but it has a cost attached to it” (AVpa)
- “The biggest buyer we have is UBC Farm; they didn’t require certified organic produce, they required variety and we had 400 varieties of vegetables, and they needed easy delivery. I drove it to them every week. I tried to make it at competitive prices. We don’t have the staff to stand at a market. I didn’t have organic status so that I could go through FMwa, so I really didn’t have anywhere else to sell to” (RBpa)
- “It’s fresh, we produce it ourselves, we pick it right out of our own fields, we advertise our own products: whatever we grow we say it’s “[MG’s] own”. It’s very fresh; we pick all day long every day... So you’re constantly harvesting and people see it: you’re walking into the store here with a wheelbarrow full of lettuce. It’s a strange concept, it’s totally different. It’s a primitive system. It’s not a clean store. It’s like a barn with shelves [everywhere] and a couple of cooling shelves. It works. The last few years it’s done very well” (RGpa)
- “They know me and they know my product...” (see Box 5.15) (RFpa)
Box 5.15. Identification of Buyer Choice

RFpa: They know me, they know my product, if I say I’m going to deliver it, I’m going to deliver it. I believe they buy from me because they like the quality, they like my personality, they like to work with me. Also, I guarantee my product, for three days into the warehouse. If I go to UOwc and I deliver zucchini and I deliver three days later and they say, "[RFpa] the stuff you brought in last week is starting to go already", I’ll go have a look and I will replace it free of charge. My one condition is that if you want credit for it, I want the product back. I really feel it’s important that I get my product back and that’s one of the reasons I’ve gone away from retail, they’re buying from four or five people and I would get product back that I know was not mine.

I will say that UOwa, Wild West Organics and FMwa, they don’t come to me and say, “Hey, we’ve got a bad load”. I personally take the responsibility to ask and to check my product. One time UOwc over-ordered on zucchini and for two weeks I didn’t get a zucchini order. They said it’s not moving. I have a look at it and I am doing two things: First, I am checking to see if there are carrying other zucchini; Second, I am checking to see the quality of my zucchini that’s left in the warehouse. I said load it up, I’ll take it home. I’ll bring fresh product straight back or credit them. Because my name goes out there, when that stuff is two weeks old in the warehouse and HPsa orders but gets this zucchini and it’s shrivelled and rotting at the ends. They’ll say this is crap I don’t want any more Four Star Product. So I make a conscience effort to know why and to replace it, plus I want to drop the price to get it out. We can’t make money if we don’t move product. I think that’s why they buy.

Questions 1c: Why have you [as a producer] chosen to sell to [your] buyer(s)?

Many conventional producers interviewed chose to sell to their buyers because they wanted to move larger volumes of produce. However, two producers who sold through a broker, also wanted to sell farm-direct for the following reasons: better value from product, lower transaction costs, freshness, ease of selling, and personal business relationships.

Alternative producers expressed a desire to connect with their buyers, valuing the trust and confidence begotten as a measure of their (i.e., producer’s) integrity and effort in producing quality produce. For some of the producers, being direct means knowing each other, working hard on personal relationships and building trust. For other producers in this category, they based their choice of buyer(s) on one or more of the following: favourable pricing, flexible scheduling to accommodate family, the desire to maintain a presence on the farm, or simply because as an independent family business, it is secure employment.

Conventional producers

- Need options to move product as it comes on and for over-production (GRpc)
- Big chain stores for volume sales: “You have to be with the big guys to move the tonnage” (OBpc)
- Sell farm-direct for increased price and better value from product (OSpc)
- To get a better price over foreign product (OSpc)
- Less costs and trucking (OSpc)
- Freshness and closeness to marketplace (OSpc)
- “It’s more profitable, and easier, if you sell right at the farm. You get to know your customers, and they get to know you” (see Box 5.16) (IOpc)
Alternative producers

- Needed market for overproduction (FFpa)
- Pricing (JVpa)
- Variety of farmers’ market venues (JVpa)
- Connection: “When we had the CSA we had quite a few shareholders involved in it. That’s one of the things I miss about the CSA: we’ve lost that connection” (AVpa)
- We want to sell what we grow: “We’ll be dealing with FMwa doing three acres of corn for ISha to handle after July; we’ll be fully organic at that time. We’ll sell anything to anybody…We also sell at our farm gate” (RBpa)
- It’s employment, it’s here, it’s all set up…it’s steady…consistency (RGpa)
- It supports a family business, at least 36 year-old business (RGpa)
- Independence (RGpa)

Trust and confidence in their buyer(s)

- “If you don’t have trust with your customers or the people you are working with, then you have nothing” (RFpa)

Maintain viable delivery through improving minimum order

- Flexibility in scheduling delivery to accommodate family
- Maintain presence on the farm: “I would go to Vancouver and sell the wholesale at UOwc, Wild West Organics, then I would stop at five to eight stores and I would be gone from the farm up to a whole day. The next day I would go into Vancouver to do my retail route, and the next day the wholesale route again. I was never home. I was always driving and delivering…” (RFpa)

Building good business relationships with their buyer(s)

- Want to sell to people who like my product and know they are supporting a family farm (RFpa)
- Worked in a volunteer program to work for your food (RFpa)
- It’s most direct (RFpa)
- We know each other: “We work really hard on personal relationships and building trust” (RFpa)

Box 5.16. Identification of Supplier Choice

IOpc: It’s more profitable, and easier, if you sell right at the farm. You get to know your customers, and they get to know you. It’s really easy because they know what you’ve got and you know what they expect. It gets to a really fine point: I harvest early in the morning and they come at 9 or 10 a.m. to buy. They start buying within an hour of when they’re picked. So you can tell just about every day of the week that’s going to come, when they’re going to come, what they’re going to buy. And they pay cash; that’s the important thing. Selling direct to the public – they pay cash. It’s not like when you sell to some third party where you may not get paid right away, or you may not get paid at all. When you sell directly to the public, you always get paid right away. That’s the big advantage… We build up a relationship with our customers…It’s a more direct relationship that keeps them coming back. This is a unique kind of operation. A lot of what we sell is sold on the honour system, so I fill up the stand and people put their money in the box and take the produce. That’s another reason why I like to have the same customers, because they know how the system works. When a new person comes along they are totally baffled, they can’t believe that they have to be honest; they’ve never run into that before.
Question 1.d.i.1: What direct market opportunities do you take advantage of in Vancouver?

Direct marketing by conventional producers is limited to farmers’ markets and some individual retail customers through the growing season. Alternative producers, on the other hand, take advantage of more direct marketing opportunities in Vancouver. As eluded to above, these opportunities include wholesalers, supermarkets, organic home delivery, farmers’ markets, and restaurants. One producer noted that within these marketing channels her buyers knew they could negotiate a fair price for her product. One grower in this category pointed out that with other growers – not interviewed – they collaborated to enable them to participate in as many farmers’ markets as possible. None of the producers participated in other marketing arrangements such as organic vegetable buying clubs and community supported agriculture (CSA) operations at the time of interviews. In fact, one producer suggested that home delivery services supplant the market potential for CSAs and buying clubs because people want a variety of food year-round, and prefer not to pay ahead for an unsure thing.

Conventional producers
- Farmers’ market through the season
- UBC and individual customers: “I’m too small to serve that kind of market without a lot of mechanization, and I decided not to invest in it. I’m sort of a one-man operation with family and a bit of casual labor” (IOpc)
- On non-regulated product to the Vancouver marketplace: “We have every ethnic group here, so we can grow anything that we want and find a buyer” (OSpc)

Alternative producers
- Granville Island Public Market, direct sales to wholesalers, supermarkets, home delivery, and farmers’ markets: “We’ve got our store down at Granville Island and we do sell directly to HMsa and CWsc and ISha and those folks. We do go to the East Vancouver Farmers’ Market, and in the West End, Riley Park and in Coquitlam. We go to the farmers’ market as a group and call ourselves LOG…” (FFpa)
- Farmers’ markets: “That’s part of why I grow 40 vegetables, so that when we do go to a farmers’ market, people can come to our stall and get just about everything they want in the line of vegetables” (JVpa)
- Farmers’ markets: “There is some collaboration with the other farmers at the markets too. A couple of different farms will check out each other’s prices. It doesn’t necessarily mean we set the price to be the same. Then we have to figure out what we’re going to sell it at. Usually we figure that out with the farmer before we go to market” (AVpa)

Ease of negotiating a price
- Farmers’ markets, restaurants, and wholesale through price negotiation: I’ll negotiate that special price for that home delivery, then I’ll turn around and offer that same base price for the wholesalers. One thing I notice with the wholesalers is that they usually want to split the difference. If there are selling for $24.50 per box and I’ve been selling for $18, but I am now offering to them at $16.50 they’ll say, how about we go to $17.25; we’ll give you $17.25 and
split the difference, but we’d like to get an extra 10 cases. It’s good for everybody concerned (RFpa)

Alternative market arrangements
• Organic vegetable buying club (JVpa)
• Potential and challenge for a CSA: “I think the market that I’d like to access is the CSA market, but I just don’t think the time and place is right for a CSA here. My experience with it is, I don’t know what it would take to make it work to a level where you could make money at it. Delivery services are in place and they’re giving people what they want. What they don’t want is to pay up front for something that is not a sure thing. And they like to have a choice in what they get. We’re just too far away from the city for people to come out to the farm and harvest. So that whole model that works in favour of the farmer just doesn’t work here. People want to be delivered to; they want a choice in what they get; they want year-round food; they want fruit. But I just don’t see how it can really happen and flourish where we are here” (AVpa)

Question 1.d.i.1.a: How did you discover this/these market opportunity(ies)?

Conventional producers stated they discovered their buyers and, therefore, their market opportunities through market research, trial and error partnerships, and through an informal, by word of mouth, communication system with their market cohorts. One producer articulated that his personal initiative to acquire a marketing strategy involved media work to get his buyers excited about his product. As noted above, alternative producers can also discover their marketplace opportunities by an informal communication network. In addition, producers who sought high returns said they developed their marketing regime profiles accordingly to obtain corresponding yields. Other opportunities became apparent as new retail and wholesale buyers entered the marketplace. However, regardless of potential market channels, some producers’ were limited in their capacity to enter markets because they required consistent volume over a sufficient period of time. One producer was extended the opportunity to participate in a farmers’ cooperative when he purchased a farm from former cooperative participants.

Conventional
• Communication, research, trial and error partnerships, reputation, acquiring market information: “You gain experience…We established a relationship with a wholesaler just through our start up process. Also, if you’re good, the word is out there. If you’re not then it’s not. And they usually know who has the good product and who is reliable. You learn that as a farmer, and the wholesaler learns it from everybody. Hopefully the word is truthful. There’s a communication system and it’s not something that’s written down. Or you will know who to believe and who not to believe with wholesalers. They’re reliable wholesalers and there are wholesalers who I wouldn’t want to deal with. Because there are farmers that they want to deal with and it’s not worth my effort to even deal with that farmer. So it goes both ways” (GRpc)
• Personal initiative to acquire marketing strategy and information: “With the commercial growing, these market opportunities have always been there so I didn’t have to discover them; I did not have to do the marketing for them. For my own marketing… I did some media work, trying to get them excited about my product, and worked with it that way” (OSpc)

Alternative producers
• Our reputation within the marketplace by word of mouth, (FFpa)
• Process of Setting priorities in our marketing regime for yielding the greatest returns: broker, farmers’ markets, direct marketing customers, other farmers delivery services and chefs (JVpa)
• “Well we sort of inherited a place with Langley Organic Growers when we first started growing here. The previous owner of this farm was selling with Langley Organic Growers and they were kind enough to offer us the opportunity to be part of the cooperative… It turned out to work for us quite nicely” (AVpa)
• Capacity to enter certain markets: “Some of the growers can deal directly with the grocery stores, like YFsc or HWsa. But they require considerable volume, consistent volume over a certain period of time. Because our mandate is actually to trial and to showcase vegetables, we can’t do that. We will contract certain crops…” (RBpa)
• Traditionally farmers’ markets, as new retail and wholesale buyers entered the marketplace: “So I started selling some product to them and it just went from there. Then UOWc opened, then HMsa, and I was selling to them for a long period of time I sold direct to them. They got so big; they had three stores and wanted me to drive all over. So I ended up not. But the opportunity was there to get into a farmers’ markets where we found we could make some money” (RFpa)

Question 1.d.i.1.b: What have these opportunities meant for your economic viability?

Conventional producers wanted to provide what their customers want, saying that knowing their buyers’ capacities, abilities and desires through direct relationships helped to stabilize their economic viability. One producer said that for better returns on investment, it was better to market new and unique produce directly than to rely on the tight margins he experienced selling to wholesalers and marketing agencies. According to several alternative producers direct marketing is a value-added process that provides an economic advantage to the smaller producer. The closer to the end consumer one sells, the better one can control costs and profit and, thus, the more incentive there is for the producer to continue farming. At least three producers interviewed have expanded their farmers’ market participation in the Lower Mainland because of their ability to get a fair price for their produce. According to one producer, competition in one marketing channel motivates her to seek out additional opportunities in alternative channels that can deliver a fair return. As producers experience increasing costs of production over time, increasing operational scale for some can be an alternative option for maintaining net income and remain economically viable.
Conventional producers

- Able to provide what the consumer wants: “Know each others’ capacities, abilities and desires through direct relationships” (GRpc)
- Better return on investment: “Margins are tight in the Lower Mainland so there is a poorer return from wholesalers and marketing agencies; better to farm and market direct, especially for new products” (OSpc)

Alternative producers

- Increase operation scale to maintain net income (FFpa)
- Direct marketing is a value-added process: “The big markets have all these other little costs in them… That’s the advantage of being small, is that you can direct market. If you get into the bigger size – acres of lettuce, you’re not going to direct market acres of lettuce. But I’ve just got a couple of beds of lettuce, a few thousand plants at the most, at any given time. That’s with everything. So there are a few cases here and there, and you spread it out. That’s the way we’re adding value, with the direct marketing. We get that 20 percent that FMwa would get in addition to the $20 for pickup. It helps keep our vehicles on the road” (JVpa)
- Direct marketing: “The closer you are to the end consumer of the product, the more money you’re going to make. That’s where we’re working, we’re trying to get as many direct markets as we can and make more from our markets directly. It gives us good incentive for keeping them running” (AVpa)
- Competition motivates seeking out alternatives that work: “By nature organic farmers are an independent lot and fiercely competitive… Through FMwa the only Vancouver-specific opportunity I know about is filling a corn slot for ISha and we worked that one out with them” (RBpa)
- Able to get a fair price; expanded farmers’ market participation in Lower Mainland (RFpa)

Question 1.d.i.1.c: What have these opportunities meant to your operations management?

Conventional producers stated that buyer feedback in their direct marketing channels encouraged them to increase the diversity of produce and variety in their operations. Where conventional producers with quota may grow no more than three crops, and choose to diversify with dimensional factors such as scale, count, colour or size (i.e., intra-diversity), conventional producers could have greater inter-diversity, such as one interview participant with 45 crops on 80 hectares, to satisfy their farm store retail and wholesale needs. Alternative producers answered this question much like conventional producers, in that diversity of produce was an outcome of an effort to balance sources of main revenue. In addition, direct marketing had the effect of increasing inter-diversity to satisfy buyer demand at multiple market venues, and orders from other farm-direct customers. For one alternative producer, maintaining a high inter-diversity of crops made farm and business resource management more complex and challenging than he preferred.
Crop Composition and Diversity

Conventional producers
- Communication and feedback: “When we were in Abbotsford, artichokes weren’t a big deal. But when we brought them here to the market it was a big deal. So the boys encouraged their dad to put them in every year. And certain other things, we went into eggplant and other niche items. So it makes a difference. When we get good feedback from the consumer at the farmers’ market, it encourages us to put more product, or do more research into different varieties” (GRpc)
- Diversity hand-in-hand with direct marketing: “I have to have a diverse crop. That goes hand in hand with direct marketing. It would be a lot easier, if I were mechanized, to go with two or three crops for processing…” (IOpc)
- Authenticity as farm market: “As far as crop diversification, we’ve diversified our crops hugely since we started the farm store. We used to grow about nine or ten crops…now we grow about 35 crops… Everything that I want to sell in my store…” (OSpc)

Alternative producers
- Trial and error: “We’re rather strange, we’ll try anything, and that’s how we got started, doing all these strange things, like dandelions and such. When there’s something new coming into the market, where we hear about it at a conference somewhere, we’ll usually give it a try. It doesn’t always work. Some work out quite well… So in general, it builds, but it’s a long-term thing” (FFpa)
- Challenges management skills: “They’re pushing the to a limit. With the direct marketing and the value added in labour is a bit onerous…That ends of it takes a lot of management that I’d rather not do. I’d rather hoe a row of carrots than spend time chasing orders down and trouble-shooting in what we call the post-harvest end. So that’s the biggest challenge with the direct marketing there are pages and pages of invoices that go out of here” (JVpa)
- Balancing sources of main revenue: “This is why I am farming. The seed industry is essentially a six-month operation that has to be done on land. So I have to grow the crops in order to fund the land… We are going to grow out several hundred varieties of vegetables, and either I sell them here or we find a market for them. If they come on after July, FMwa will take them; if not, they go to UBC Farm or the food bank” (RBpa)
- Bifurcated market channels: “We have a large diversity because of the farmers’ markets. We’ve added a lot of crops. We still have our main crops…Those are our major crops for wholesale. We’ve diversified into everything else” (RFpa)

Operational Scale
Conventional producers cited advancing age, family business, and direct marketing as factors in terms of how new market opportunities may or may not impact their operational scale. Older growers used to producing large harvests for many years may want to slow their production down as they approach retirement. One family farmer wanted to keep their operations small and within their family’s labour capacity. Another producer wanted to increase the proportion of their direct marketing operations and away from their wholesale quota business. Alternative producers noted that regardless of the success of their direct marketing efforts, they were not interested in increasing their operational scale beyond their own capacity to manage it effectively. One producer said that he could triple the scale on his existing land base but has chosen against it. Another said that his whole concept of marketing was to remain small and organized so that “if somebody gets paid, it’s me”. A
third alternative producer said that to increase the scale and diversity of their operation was an evolving type of work where they switched roles from field to office in order to take advantage or create niche markets.

Conventional producers

- Age: “I’m accustomed to putting out 120,000 pounds per day. I’m quite capable of that, I have enough equipment to do that, but at my age you just want to slow down” (GNpc)
- Family farm: We farm about 80 acres ourselves. My brothers do about 1000 acres. They’re more into commercial farming for the wholesale. But we keep it small. It’s a family farm; we rely on each other” (GRpc)
- Increasing direct proportion: “I can sell more and more directly, we keep increasing our direct sales because there is more money in it coming back to the farm…” (OSpc)

Alternative producers

- Evolving work type: “We work differently. When it was small it was just us and yes, you worked and you were tired at the end of the day but you were tired because it was you out there hoeing. Now it’s different work; it’s higher stress work. You put in just as many hours and you’re just as tired but it’s a higher stress …” (FFpa)
- Be organized: “You’ve really go to be organized. You’ve got to know what you’re doing” (JVpa)
- Human scale: “My whole concept of marketing is that I want to stay small, which is so totally against the modern day capitalist level of organizing and marketing, but for me to stay small and to stay at a level where I can do all my own work means that if somebody gets paid, it’s me. And I think what happens with a lot of organic farming is that the labour cost is so high, the farmer has to hire labour to do the weeding and harvesting and transporting, and in the case of selling to FMwa, you’re paying them 20 percent to market your stuff… That means you’ve got to maintain a scale that is small enough for you to do all this work. That’s where I’m at…So my whole reason for being is caught up in the market and how I manage my operation and cater to markets” (AVpa)
- Management choice: “…we don’t want to deal with a whole lot of hired employees. I think that we could probably triple our scale on our land base but we’ve chosen not to” (RFpa)

Access to capital

Access to capital was not an issue with any of the producers interviewed because they have acceptable cash flow and equity from their operations. One conventional producer said access to capital would be a problem, because enlarging his operation would mean growing beyond his capacity manage it. Another said he had better cash flow from direct marketing. A third producer revealed that his operation was “unconventional”, and would be laughed at if he presented a business plan to a funder. An alternative producer said that equity and cash flow from direct marketing have increased his credit rating, allowing him to take loans, if necessary, to expand his operation by building season extension infrastructure.
Conventional producers

- Objectives and goals: “Access to capital would be a problem if you were trying to get big” (IOpc)
- Cash flow: “We’ve had better cash flow because of direct marketing because we get our money quicker” (OSpc)
- Long-term investment: “As far as access to capital, we’ve been at this quite a while so that has sort of built up along the way… As long as the cash flow has been enough to make payments then the credit rating gets increased. And I guess in some case too, the property values have gone up… We had a lot of money invested in our hoop-houses… But the deal was there at the time. It was either take it or leave it. It sucks up a lot of resources. It’s a learning curve” (FFpa)

Operational Capacity

Operational capacity differs from operation scale in that capacity is, effectively, doing more with currently engaged resources and expanding outward, spatially. Conventional producers discussed extending their market presence by planting varieties that will increase diversity and/or last longer into the season and, thus, longer at market. One conventional producer had a preference for scaling down, again by increasing diversity and direct marketing activities while lessening large-scale wholesale operations. Alternative producers cited very similar strategies to conventional in terms of optimizing direct market revenue. However, one producer is investing resources into season extension crops and infrastructure in order to access market demand for local produce during the winter.

Conventional producers

- Extending market presence: plant a variety that will go a little bit longer so you can have it longer at the market (GRpc)
- Unconventional: “If I wrote a business plan for the kind of operation, and I have, and went to borrow a whole lot of money, they would just laugh at me because it just wouldn’t add up” (IOpc)
- Preference for scaling down: “…we would actually like to down scale, not go larger because we’re finding that, in the Lower Mainland, going larger doesn’t particularly work here. In the commercial part, you’re at a nickels and pennies of a production margin. That’s why we’ve diversified and started to direct sale some of our products. Getting smaller is better for us. You have to go so big now with the economies of scale… Here on 200 acres we’re doing 35 crops – maybe 20 of those are on a very small scale, just for the store. So that leaves the other 180 acres in 10 crops, still very diverse but not good for time management” (OSpc)

Alternative producers

- Season extension, increase variety and modify growing conditions: “I produce it here in the summer and if I can produce it in the wintertime and they will pay. That’s the goal. It wasn’t totally successful this year… They’re going to enable different crops, too, things that you couldn’t grow in the summer… I’m planning on seeding now are for summer crops that missing at the East Vancouver Farmers’ Market and some of the other markets” (FFpa)
- Optimizing direct market revenue: “We’re not going into Vancouver unless we’re going in with a good load. Over $500 of stuff to go to a farmer’s market is kind of our bottom line” (JVpa)
- “The market is everything. I mean, you start at the market and work back, because otherwise, what’s the point of growing all those vegetables?” (AVpa)
Land Stewardship

Conventional producers indicated four issues that, as a result of taking advantage of market opportunities, impacted and sometimes confounded, their land stewardship strategies. These issues were, 1) potential differences in business priorities and goals between generations within a family, for example between an interviewee’s resistance to his sons’ desire to transition to an organic operation, and one that “the boys” would be interested in continuing once the interview participant retires; 2) producer compliance to government regulations for habitat protection, and the subsequent negative impact on production; 3) the unexpectedly opposing goals of maintaining a good crop rotation programme, and soil compaction and potential disease transmission as a result of farm tours; and 4) as an organic operation, land stewardship was very important to accessing and maintaining market opportunities. Two alternative producers spoke of land stewardship as either a community system, or whole farm system issue. Their operation, as part of a community system, was the sharing of resources, i.e., neighbour’s cattle manure for compost and a land base to apply it. As a whole system, the other producer considered the farm as a multi-functional unit rather than cropped fields. A third producer considered that rotations are important to maintaining new market opportunities, and as such a rotation should include a diversity of crops: “You can only grow so many brassicas before your rotation doesn’t work.”

A fourth producer understood land stewardship as a given as his livelihood depended on it.

Conventional producers

- Generational challenge: “I know with the boys there is. They’ll say, ‘What about organic?’ Whereas their dad isn’t into that too much. He knows, with the weeding and all that, he says we wouldn’t be able to do it because we don’t have the labour. But the boys do look at it. Even though you look at it and wonder, “Can they be farmers?” I don’t think they can be farmers. They can’t work as hard as we did. But they do show interest” (GRpc)

- Negative impact on production; changing land use patterns: “…I used to let the cows graze around the creek but the environmental people don’t want you to have cattle grazing anymore because it contaminates the water…we started excluding the cows…the reed canary grass grows like crazy…It’s pretty much taken over. And then the beavers come in…and they start cutting down my apple trees and blocking the water” (IOpc)

- Rotation and farm tours: “…In some ways it’s easier to take better care of the land because we’ve got more rotation. But in other ways it’s more difficult because doing farm tours, we’ve got more people on the land, so there’s more compaction…” (OSpc)

- Organic operation: “Well, we are an organic farm, so that’s very important in how we operate…” (XHpc)

Alternative producers

- Community system: “…they have animals over there, so we use their manure to compost down. So it’s taking the complete system and expanding it into a community system. They didn’t buy that when I tried to tell it to them in the classroom, but it works for us. What would our neighbors do otherwise with the manure?” (FFpa)
Rotations and limitations: “…you can only grow so many brassicas before your rotation doesn’t work, because you don’t want to grow brassicas within three years of your previous brassicas… Some people might stretch it to seven years if they’ve got enough land; other people might say, “Two years is the best we can do.” You make that decision, you decide how you want to do your rotation and then you plan your crops according to that as well” (JVpa)

Non-issue: “Land stewardship…what does that mean, of course I’m going to steward the land” (RBpa)

Farm as whole system: “We’re certified organic…we use biodynamic preparation. And we deal with the farm as a whole unit rather than cropped fields. My husband has always been involved in biodynamic agriculture” (RFpa)

Time-Resources

Conventional producers identified farming as a passion to be able to deal with compressed and competing timelines, where a person must manage oneself and be efficiently organized, be able to continually adjust to changing management priorities, and learn to benefit from incorporating information technology to manage various aspects of their operations.

Alternative producers cited three time-resource related issues that impacted their operations management as they participated in their respective market opportunities. Two of these were a constraint and a desire to access multiple, geographically and temporally separated farmers’ markets, and the lack of a permanent, full-time farmers’ market location in Vancouver. Spreading farmers’ market locations and times were considered both a positive and negative in terms of time and resource management. A permanent location in Vancouver was considered desirable for its consistency of place, dedication of resources, and reliability of revenue. A third factor was cooperation within the family unit, and collective marketing effort among a group of producers. Cooperation allowed an operation to grow, increase crop diversity and volume of product, thus improving marketing efficiency.

Conventional producers

- Passion, identifying with the work: “…there is never enough time. Like last night I didn’t get to bed until midnight and then we get up at 4:00 a.m. Usually its 11:00 p.m. and 5:00 a.m. The people were picking peas until about 8:00 p.m. It’s tough. There are times when I wonder why do I do it. But once it’s in the blood, it’s hard… I see it in the boys too. It becomes a part of you. With my husband I can see that. He loves that… when you see someone put everything they’ve got into it night and day. It becomes a passion”
- Managing oneself: “I have things very efficiently organized because I do most of the work myself…So, in terms of efficiency it works very well. But there’s no management other than my own. I don’t have anyone looking after the office…There’s no such thing as that… When you get bigger and get more staff then you can start allocating different responsibilities. But I’m not at that level; I don’t intend to be” (IOpc)
Changing demands: “With us doing more farm-direct marketing it's meant a change in our management style. I myself am a horticulturist who used to be out in the field… I have to spend time in doing marketing” (OSpc)

Technology and management: “We've designed computer programs that we use for our record keeping, sales and so forth, which combines the different aspects of our production… I think we've narrowed it down to a good team and I think we manage our time fairly well. But farming is different than another organization; you're on 24/7, so time management is just life” (XHpc)

Alternative producers

Permanent farmers' market location: “A fantasy that I've had is that there would be a farmers' market in Vancouver that would be in a permanent location. It would be something like Granville Island but set up for farmers in the season and there would be facilities there… In other words, we're not scrambling on Thursday and Friday to harvest for these Saturday and Sunday markets, where three-quarters of our sales are taking place. If it could be spread out more it would allow us to manage our operations easier” (JVpa)

Multiple markets: “…we have two Wednesday markets this year, so it will be interesting to see. We had one last year; we'll have two this year. It's nice to be able to spread it out a little bit. Nat Bailey Stadium in Vancouver this year and then there is the Lonsdale Quay Market in North Vancouver on Wednesday” (AVpa)

Combined family effort: “My husband does most of the planning for the plants, the seed buying. The children help with the actual planting of the crops and transplanting. I do most of the marketing… Time resource management is very difficult. It's a good thing that my husband and I are quite skilled and I've had to bring in a good office staff person to handle all the different facets of our business” (RFpa)

Cooperation: “In 1996, a group of farmers got together and started marketing collectively… then we could hire somebody to do the sales and to some extent the marketing. That allowed us to grow more. We hired a truck and a driver… We hired somebody to answer the phones and put orders together, and we hired somebody to build the orders. So it freed us up to do more on the farm. Having that much product – that much more diversity and that much more volume between the farms – we could go into chain stores. Whereas before we couldn't” (FFpa)

Question 5.d.ii.1.a: What kinds of market barriers have you experienced?

Experienced Market Barriers

Direct marketing as a barrier: “…if you've got everybody running around and supplying this guy and that guy, and if you're going to the x-markets and y-markets, well they buy from our suppliers already so you're just cutting out the middle man and probably shooting yourself in the foot” (OBpc)

Land: “It's land. Don't have enough land, enough people, but not interested in extra headaches … There's not enough land around here anyway to start that unless I went several miles away” (RGpa)

Crop composition-diversity

Producers did not indicate experiencing market barriers related to crop composition and/or diversity.
• Lack of processing facilities: “We used to grow peas and beans and cannery corn and those opportunities aren’t there for us any more. Some of it’s to do with free trade; some of it’s to do with transportation issues: the canneries don’t want to come down this far” (OBpc)
• Appropriate scale: “We’re particularly happy with our crop diversity. It’s a custom plan, we’ve been doing it for so many years that we’ve got a routine” (RGpa)

**Operational scale**

Conventional and alternative producers who answered this question indicated that their operations were already at an appropriate scale. Opportunities existed in the past to have larger operations, but did not want to branch out cultivating more land or additional crops for the added labour, capital and financial resources this would require.

• Appropriate scale: “I guess there’s opportunity there to get bigger if we wanted, to grow more potatoes, but I think we’re quite happy the size we’re at” (OBpc); “We’re particularly happy with scale. I don’t want to branch out and buy more land or grow other things. There are enough large farmers in the area that take care of that part… [I don’t want to deal] with packaging and the need for another barn. It’s a whole new ball game which I’m not really interested in because I am doing just fine” (RBpa)

**Access to capital**

None of the producers interviewed considered access to capital a market barrier.

• No barrier: “I have no problem with access to capital; the banker doesn’t care where your crop goes as long as you have the money to pay his interest and capital back at the end of the season. I don’t view that as a barrier” (GNpc); “Not a problem. The more you owe, the more they’ll lend you” (OBpc); “Access to capital is not a problem” (RGpa)

**Operational capacity**

Several producers said they experienced market barriers related to operational capacity. Producers cited lack of processing facilities in Vancouver and the Lower Mainland and the affordability of labour as placing additional burdens on the producer and cutting back or growing easier crops. One conventional producer said that direct marketing could be a barrier because by supplying x-market directly, they may be undermining themselves in the larger supply chain where they are selling to a wholesaler who sells to x-market.

• Less community involvement: “I'm still doing my own growing on my own farm and my own harvesting, and I'm very reluctant to do anything for my neighbours anymore because the rates are just not there…it costs too much money to maintain, so I can't do that for them” (GNpc)
• Affordable labour: “…we are cutting back on growing…I’ve been here every day since the beginning of February… It is a full time job. I probably put in 50 percent more hours than your average working guy, I would imagine. In a year, if you add it all up, I’ve done over 3,000 hours a year” (RGpa)
**Land stewardship**

One conventional producer cited his experience with complying with Fisheries and Oceans regulations as a market barrier. Complying with regulations meant significant loss of control over his land stewardship activities and, consequently, the productive capacity of his land.

- Government regulation: “…of concern now is Fisheries and Oceans. They want us to stay 10 metres away from all our ditch banks…environment setbacks. Fine, pay us. We want to clean a ditch…we wait six months to get a permit…they have to come by and inspect it. We are not allowed to control the angle of the bank… anymore. That has to be left in grass…They want on this 10-metre strip [of] Hedgerows…for songbirds. Now those hedgerows have a very bad habit of being a good place to propagate pathogens to damage my crop…. Can I spray that hedgerow? No, because it’s too close to the ditch….My farm will become a subdivision. As simple as that. So if the Metro Vancouver region is thinking they want to preserve farmers, they have to help us preserve our land. We have to have a land area that we can properly farm and make a living from …I’m losing one strip of land this spring because I can’t afford to buy it. It would take my gross receipts just to pay the bank interest on that loan. There’s no rhyme or reason to what the provincial government wants for their land at the present time….But as a building site for a house, yes, that strip of land can be purchased by someone who has nothing to do with agriculture…. Oh, it might grow grass, it might have a horse… That’s where the Metro Vancouver region is taking us and the provincial government is on stream, Environment [Canada] is on stream, Fisheries [and Oceans] is on stream, to put more pressure on the farmer to have him move out” (GNpc)

- Cover crops and rotations: “…we do a fairly reasonable crop rotation and land stewardship. We participate in the Farm and Wildlife Trust programs and we’re constantly seeding down grass every year and plowing it up to put potatoes in…” (OBpc)

- Crop rotation, fertility management, soil moisture/groundwater management (RGpa)

**Time-Resources**

- Family cooperation/partnership: “I’m in a partnership with three brothers and we have a couple of full time employees…. At the size we are now everything seems to get done that needs to be done. If we have a late spring and we’re under the gun to get stuff planted with all the big machinery we have, now we can get everything planted within 4 weeks” (OBpc)

**Question 2: Do you feel you are paid a fair price for your product(s)?**

All but one conventional producer said they were paid a fair price for their produce. The reasons for being paid fairly ranged from marketing direct, getting the highest price for processed vegetables in North America, and anti-dumping tariffs. One producer said that market intermediaries between the farmer and end user, had acquired an unfair proportion of the food dollar. Another conventional producer said that, in general, farming is not paid a fair price because, “As Canadians we spend the least amount on food”. Alternative producers said that for the most part, they do receive a fair price for their produce. As direct marketers, they said they had more control over prices that better reflected their costs of
production. One alternative producer acknowledged that her lack of access to timely market information amounted to “winging it”, and not knowing if she was getting a fair price.

Conventional producers
- Yes, in North America: “We’re getting the highest price for processed vegetables in North America, by far” (GNpc)
- Yes, marketing direct, but: “When I’m here at the farmers’ market I would say I get a fair price. At the wholesale market it’s Ok. But when you see the prices in the superstores, I don’t think the farmer gets what he is supposed to get for his work. Even when we’re over-supplied we take it to the middleman, the broker, who takes it to the wholesaler, who supplies it to the restaurant or the store. So there you see the broker and the wholesaler making as much as the farmer. Direct marketing really helps” (GRpc)
- Not below the cost of production: “I am when I sell it to the public myself because I charge whatever I want to for it. And they buy it. I guess the only thing I would say isn’t fair is the price of apples, because the price of apples that are brought down from the Okanagan is too low. A lot of the local roadside stands and little markets get apples really cheap from the Okanagan. They bring them down here and sell them below the cost of production” (IOpc)
- Prefer more, but: “There are easier ways of making money than doing what we do. But it’s still satisfying and we’re still getting by” (XHpc)
- Yes, because of anti-dumping tariff (OBpc)
- Not paid justly: “Generally no, farming is not paid a fair price…As Canadians we spend the least amount on produce. At the end of the day we need to be paying our farmers much better” (OSpc)

Alternative producers
- Not against CA imports: “Most products yes, some products, no, because California beats us down on that, for instance with the salad greens. We set a price according to our cost and it’s higher than what they can ship it in from the U.S…” (FFpa)
- Not without knowledge of market pricing: “When market price is going up and down, I’m out here and don’t know what the market price is doing; I’m not patched into it…if I knew what the market prices were, but I just wing it because I’m not big enough to spend a lot of energy tracking prices… FMwa is right on top of prices all the time. But I’m not going to get on the phone to her every day …The same thing goes for the farmers’ market… If it was available on the Internet, if you could just go to a web page that you didn’t have to pay for. But that doesn’t necessarily reflect what our local prices are” (JVpa)
- Not below the cost of production: “I think we have a bit more control over our price at the farmers’ markets. If you’re selling wholesale, you’re selling to someone who is also buying products from 50 other farms, and they’re going to market them to the big businesses or send them to UOwc. UOwc will basically set the prices for their vegetables, depending on what the Americans are setting their prices at… Our prices are based on our cost of production, and that’s important to us… It’s more practical to set a price that reflects your costs of production, that gives you money that enables you to keep farming. Food is too cheaply priced. It’s just crazy that farmers are not making the money on what they produce because we live in a country that has decided that food doesn’t warrant a price that covers it’s cost; whether it’s conventional or [organic]” (AVpa)
- “Most of the time” (RFpa)
- “We do. Our competition sometimes really undercuts us. There are a lot of cutthroat people around…” (RGpa)
Question 2a: What criteria do you use to determine what is a fair price to you?

Several conventional producers stated that whatever the market will bear, and anything that can move product, is a fair price for their fresh produce. The fresh market is largely determined by the landed price from the United States. Given the U.S. landed price, one conventional producer noted that local processors work with producers to get a realistic price (i.e., above the cost of production). Another grower observed that in his case, market value has sometimes been lower than his cost of production. He noted that finding produce in the grocery store priced several times higher than that paid to him was an inequitable market situation. Several alternative producers said a fair price was based on the real cost of producing food and a fair return on their work (i.e., labour and wages). Two producers had a strategy to gage a fair price for produce sold at farmers’ markets that included an assessment of local wholesale and retail prices. Two producers simply said they accepted as fair their respective organic wholesaler’s published prices each week.

Conventional producers

- Single-selling desk: “Whatever the market will bear we have to live within. When we can’t balance our bottom line, we will have to drop the farm if the rent is too high. If the bottom line gets too tight then we have to stop using ground limestone. Our local processors recognize this and they bend over backwards to see that we do get a price that’s more realistic [for the North American market]… Let’s bring it down to the farm level. A single-selling desk is what we’re talking about, really…” (GNpc)
- Labour: “It’s partly the amount of labour that I have to put into it. I’m not going to sell something for less than what I think it’s worthwhile for me or I won’t bother growing it…Some of the other growers in the Valley who have large crews sell them cheaper. I don’t think they make a lot of money but they keep their costs down” (IOpc)
- What the market will bear: “Whatever the market will bear. You have no choice. On the potato end of it, we have no processors here, really. Whatever the fresh market is, that’s what you get paid…there’s no other place for it to go… We are cleaning and storing probably 1500 tons and we have our own washing and grading and packaging facility. When they leave here they’re ready to go on a store shelf. It’s either you do it yourself or you pay somebody to do it…” (OBpc)
- Equitability: “We know our cost of production… We can only get market value, and so our market value is lower than what our cost of production is in many cases… We’re simply on market value and the United States runs our market value and its supply and demand… What the consumer sees is…in many cases between the farmer, the middleman and the sales person, there are huge jumps in prices. So you could be paying at the store, four times what the farmer has been paid. That’s not equitable” (OSpc)
- U.S. landed and planning on projected growth: “Fair price is basically anything that can move your product out the door. Generally we’ll look at what the U.S. landed price is and make sure we’re in line with that. Typically we won’t go as low as that. But we do use that as a barometer… Other buyers may come and go, but that buyer who is committed to that product takes precedence over everything else. I wouldn’t say it’s a forward contract, but we do plan, based on previous years and based on growth projected by certain customers… We can’t be guaranteed they’ll take it but we have good relationships and it seems to work out” (XHpc) (see Box 5.17)
Alternative producers

- Depends on quality: “Sometimes we don’t get the decision. UOwc puts out the price sheet twice a week… As a retailer… quality is definitely one of the issues. If it’s really high quality, it is easier to sell at a higher price. And I’m in a higher end market too” (FFpa)
- Real costs: “The real costs of producing the food and a fair return on my work” (JVpa)
- “Our costs, including our own wages, theoretically” (AVpa)
- “The price is pretty much set by FMwa. Obviously what you should do is see what FMwa will pay you and see if you can do it for that amount of money and still come out ahead… Pricing stuff to be competitive within the organic industry here and with the stuff coming from California is way out of my league. I’m an amateur at this” (RBpa)
- Costs of production: “Hours spent in the field. Money that we are having to pay to pickers… I try to the get the people I am selling to, to give me a fair price. For farmers’ markets, I watch and I gage my price according to what I am receiving wholesale… I watch what it sells for in retail and try to keep within a 10 percent range… If I start looking at hours spent [for labour], though important… you can’t always think that way. Some crops don’t work that way, some don’t take a lot of work and others much more” (RFpa)
- Price comparisons: “I guess I take an average. I do a price check – I compare… Like a Chan’s or Safeway or Save-On and then I’ll average those out and I’ll match that lowest price or go a little lower, but I don’t undercut nor over-charge, I don’t think. I think it’s fair. I think I’m receiving a fair price… Sometimes I don’t have enough supply for the demand; I think I’m selling too cheaply because people are buying them quickly” (RGpa)

Box 5.17. Price fairness, criteria as a supplier

XHpc: We look at what our production costs are, and what our harvesting costs are. If we have a crop in the field and it’s going to cost us more to send a crew in there to harvest it than what we would make, then we have to make decisions. Sometimes what we’ll do is… make a deal with a processor to come in and take it. So you’ve got to look at what your input costs are up to the point of harvest, then you’ve got to look at what are those extra costs: the harvest, the packaging, the transportation, and all of that. Then you decide if it’s worth your while. We look at the market price is; what are the other local farmers selling for? We’ll say this is it; this is our product, this is what we need and if you want it. Typically, the more you have customer loyalty, the more you don’t really worry about what other people are doing out there - as long as you have consistent supply. I find a lot of buyers trust that if I say I have the product, I’ve got it. We will agree to a fair price, and we’ll come through on our end. A lot of buyers would prefer that, as opposed to going for the cheapest deal and not knowing if it’s going to be there tomorrow. We try to just build relationships with our customers where we can plan what they’re going to take and we can make sure that they get priority. We have a lot of customers who maybe focus in on one product. They say, “Look, we’re really committed to this product, we’re committed to this price.” In return what I do is make sure that’s what they get. Other buyers may come and go, but that buyer who is committed to that product takes precedence. I wouldn’t say it’s a forward contract, but we do plan, based on previous years and based on growth projected by certain customers, we will plan our crops accordingly. We can’t be guaranteed they’ll take it but, as I say, we have good relationships and it seems to work out.

Question 2b and 2c: What criteria do you consider in determining a fair local market price? What criteria should a buyer consider in deciding what is a fair market price?

Conventional producers considered the following criteria as important in their determination of a fair, local market price: reliable, daily knowledge of the market; buyer consideration of
quality and uniqueness of product and, thus, the willingness to pay more; buyer acknowledgement of the value realized from a consistent and reliable supply; buyer acknowledgement of a producer’s reputation and integrity, land stewardship, certification, and adherence to food safety precautions. Alternative producers considered the following criteria as important in their determination of a fair, local market price: buyer awareness of production and organic certification costs; buyer acknowledgement of market value in freshness, taste and proximity; buyer appreciation of agriculture’s contribution to local economy; buyer realization that the cost of imported conventional produce is artificially low.

Conventional producers

- Following the market: “The threat of buying from xyz company across the road who will do it cheaper, so you have to know what xyz product is selling. In other words, you have to follow your market daily” (GNpc)
- Consistency and reliability: “The quality, and fairness to the farmer – they shouldn’t be making big profits as a middleman. Buyers should consider the quality of the price, definitely. Reliability is a very important factor, otherwise they won’t even talk to me” (GRpc)
- Quality and uniqueness: “Well they should look at what they are getting: quality and is there something unique about it. They should be prepared to pay more for things that are not mass-produced… The retail store buyers are basically after price, something that will withstand handling and will stand up in the store. They don’t really care what it tastes like. It’s about appearance and cheapness…” (IOpc)
- Steady supply: “The buyers have several different criteria. Most of them want steady supply. I would say most of the time our product is priced a little higher than in other areas, and we still seem to sell” (OBpc)
- Reputation, stewardship and product integrity: “The buyer should look at what a fair price would be for the product as well as looking at the reputation of that product, the stewardship that the farmer is practicing, and if they in fact are licensed and adhering to food safety precautions. That should be built right into the price to be fair to the farmer” (OSpc)

Alternative producers

- Local economy: “We’re contributing in a significant way to the local economy…down at Granville Island we do some of it” (FFpa)
- Our production costs: “A lot of people are surprised when I tell them that we pay $1,000 for organic certification…I hire five people plus myself, and that is something I’d like customers to be aware of: just how much of that money they spend, how much of that dollar, is paid out to services” (JVpa) (see Box 5.18)
- Unrealistic consumer expectations: “Personally I think that the cost of produce is artificially low. The general consumer expects to pay too little because of the glut of produce that we bring in from South America, Mexico and the United States. The fair market value is what it costs an ordinary human being to harvest it and make a living at it; that’s fair market value. If it costs me $10.60/hour to have a crew of people weed it, then that’s part of the cost of the produce. So fair market value is what it costs to make a living at it” (RBpa)
- Locally aware: “I think availability, glut on the market, as well as the fact that is harder to grow things in the Fraser Valley… I think paying attention locally, and saying we will carry the US product, but also offer the BC product but at a higher price. Normally, I am probably one of the first farmers to drop prices” (RFpa)
• Fairness: “I think they don’t mind paying a little more for something very fresh and grown right here in our back yard…I rarely have someone complaining about the price of something…I’m trying to be fair; I’m not over charging” (RGpa)

Box 5.18. Price fairness, and unacknowledged grower criteria
AVpa: When people at farmer’s markets ask, “Why is this so expensive, or that so expensive?” I’ll tell them that it costs money to produce food. It would be good to track where a dollar goes, to show them that their money is staying within the community. That they’re supporting MBpa, Olera Farms, and the Gruwall Family, and all the people who are benefiting from this farm being in existence. Not only are they getting great food at a great price, but they’re also supporting a community of suppliers and workers and all these other people. But most people who complain about prices don’t want answers; they just want to complain. That’s been my experience. When you try to tell them things only the odd person listens; usually they just walk off in a huff or keep on complaining… I tell them that it costs money to produce food, and if you’re not paying for it then someone is paying that price. We’re either paying for it in environmental costs because we’re trying to use these quick fix pest control methods that are washing away into the water system; we’re paying for it in that farmers aren’t making any money farming and there are fewer and fewer farmers out there. What if we lose our farmers? Are we going to rely on our neighbours [in the U.S.] to feed us? That’s kind of scary. A lot of people don’t think beyond, “My dollar buys me this much.” I don’t think they think about what they are buying and what it means, and where it comes from, or the fact that the cost exists. People say, “When is organic produce going to get cheaper?” How can it get cheaper? The cost of gas just went up; minimum wage just went up; maybe you don’t know this, but the price of seeds just went up. How in heaven’s name could the price of organic food go down when all other costs are going up? To me, it’s just common sense, but people just don’t think that far, I guess. Maybe they’ve never run their own business. Most people haven’t. You get a lot of these ladies in White Rock who probably never worked a day in their life, who don’t know what goes into the creation of a product. So it’s really hard and it’s frustrating because, like I said, most people don’t want to hear it. I’ve got lots I could tell them.

Question 3: What has been the role of the BC Vegetable Marketing Commission to your business?

Conventional producers accessed the BC Vegetable Marketing Commission as a selling agency between themselves and the processing industry. The BCVMC negotiates annual contracts that secure minimum prices and producers’ market share according produce standards. Registering with them provided stability and production of some crops for which quota is necessary. The Commission has allowed a group of producers to acquire selling agency status. For one conventional producer, the Commission allowed him to secure an organic market niche through an annually reviewed exemption and a license for a roadside market. All but one alternative producer had no dealings with the Commission. That producer purchased a grower’s license from the Commission every year, but did not know what the Commission did other than setting prices and standards.
Conventional producers

- Negotiate annual contracts and ensure processors are viable: “Their only role to date for processing vegetables has been to sit us down every spring and set the processors down on one side of the table and the farmers on the other side, and hammer out a contract... I’m only talking processing... There’s no margin in it for the farmer, really. But we have to keep our processors viable as well. They’re our selling agency; without them we’re dead. Our processors are very small, they’re not world scale” (GNpc)
- “I’ve registered with them for a long time. They provide some stability and production of some crops, like potatoes for instance” (IOpc)
- Agency license: “I think it’s really helped because the Lower Mainland Vegetable Distributors started out as a splinter group of BC Coast Vegetable and we had to apply for an agency license to sell our product... the Commission gave us the opportunity to set up our own selling agency. You need an agency license to sell to the wholesalers” (OBpc)
- Securing market share: “…if I feel that I’ve not got my market share, I can simply phone them up and ask ‘why have I not got my market share’. They do set a minimum price with the marketing agencies, but it’s not necessarily adhered to perfectly... The lowest possible price is usually what the agencies will sell at, and that’s not necessarily good for the farmers. So in my opinion British Columbia has not done a good job marketing our product” (OSpc)
- Securing market niche: “By allowing us the annually reviewed exemption, they have allowed us to work towards building... organics as a niche market...” (XHpc) (see Box 5.19)

Alternative producers

- “Absolutely nothing” (FFpa)
- “Nothing” (JVpa)
- “Nothing” (AVpa)
- “I haven’t a clue what it is” (RBpa)
- “No, I don’t have anything to do with them” (RFpa)
- Grower’s license: “No, we don’t deal with it, although I have to buy a license from them every year - a grower’s license. Which is fine, I guess I’m a member, but I don’t go to any meetings or I don’t know what they’re all about really, besides setting prices and standards” (RGpa)

Box 5.19. Role of BCVMC to supplier (grower)

XHpc: Well, we have been under an exemption because we sell organic products. So what we’ve done is operated under an exemption to ship through a designated agency. So they’ve been very helpful. We have a good relationship with BC Vegetable Marketing Commission, but we haven’t gone through a designated agency. But we support it, we pay our levies and work with them as far as food safety issues... Potatoes were the only things that were regulated that we grow. I think they’re very proactive and I think the resources are there. Have we used them? Probably not to the fullest. Will we? Probably. We’ve found them to be very proactive. It’s up to us to exploit what they have to offer. Have we done that? Probably not as much as we can. But we know that the resources are there. By allowing us the annually reviewed exemption, they have allowed us to work towards building... organics’ a niche market, so they’ve given us the latitude to find our market and to build it, which we have done in the last five or six years. I think we’ve established a strong foothold for our organic produce in this area. They’ve said, “Yes, you are shipping a regulated product, but we acknowledge that it’s different, your markets are different, so you don’t have to ship through a conventional agency.” We’ve done our own product development. We’ve built our own markets. We’ve displaced US products coming in and we’ve built a label for what we have. I’m sure they’re there to provide assistance; it’s just not something we’ve required. We’ve just gone and found our own way.
Question 3a: Does the BCVMC encourage and/or assist you to be innovative and your business viable?

One-half of the conventional producers interviewed thought the Commission did not encourage them to be innovative or viable by helping them to adapt their operations or, in one case, help them engage in niche markets. As a grower and processor-sponsored organization, these producers understood the Commission to be a lobbying group that worked with government for the benefit of farmers and quota management. Other than food safety one producer who worked part-time for the Commission did not consider the Commission proactive. However, the same producer subsequently noted that the Commission did a fairly good job facilitating access to local markets, and helped its selling agencies keep in touch with the local markets. Another grower said the BCVMC was breaking quota down to specialty items as a way of letting producers grow what they wanted. Alternative producers all answered negatively to this question. For them, the Commission did not encourage small farms to develop, and encouraged large farms to grow, be more modernized, more efficient, and by appearances, cleaner.

Conventional producers

- No, not innovative: “The Commission doesn’t encourage me in being innovative and viable… It does not help me to adapt my operations or help me engage in niche markets… The Marketing Commission will hold our funds for product development in trust and then whenever the processors and growers committees agree that this money should be expended… Our marketing commission is not sponsored by the provincial government in any way, shape, or form. It is grower and processor-sponsored, as far as the financial side of it is concerned.” (GNpc); The marketing commission does not encourage or assist us farmers in any way. That’s not really their job; it’s not what they do. They are really not even a marketing commission. They are more of a lobbying group and work with/or against government for the farmers and quotas… It’s not their mandate to facilitate accessing local markets at all. Accessing local markets is… completely on your own… The BC Vegetable Marketing Commission does not do anything to help us adapt our operations, or help us to engage in niche markets. In fact, a regular farmer just starting out wouldn’t even have a reason to call them” (OSpc)

- Food safety, otherwise not very proactive: “I don’t think they’ve been very proactive. I work for them part-time as a food safety advisor, and that’s one of the more innovative things they’ve done in the past few years… They do a fairly good job doing facilitating access to local markets. They try to help the different agencies keep in touch with the local markets, and it’s worked pretty well… the same in the Okanagan” (IOpc) (See Box 5.20)

- Yes, for agency status: “we actually have applied to have a designated organic potato agency. So what we would do is move away from the exemption status that we’ve had to a little bit more solid standing so that we can feel comfortable in continuing to build the market that we’ve built so far, and expand upon it and work with other growers” (XHpc)

- Yes, breaking down quota and allowing growers to specialize: “The commission has changed on some of the quotas and how they’re calculated; they’ve gone to a quota on count size potatoes…They’ve changed the quota a bit to allow people to, instead of having one quota for all that product. BCVMC is breaking the quota down to specialty items and I think that’s a
bonus and I think it will probably go further and probably go to quota for variety…and their counts…it’s a way of letting people grow what they want” (OBpc)

Alternative producers

- No: (FFpa), (JVpa), (RGpa), (RFpa); “It’s not a system that encourages small farms to be developed. It’s a system that encourages big farms to get bigger, to get more modernized, more efficient, and cleaner on the outside (AVpa)

Box 5.20. Supplier (grower) marketing needs unacknowledged by BCVMC

IOpc: They try to protect the markets as best they can, but it hasn’t done any good on things like onions and cauliflower… I don’t think they do anything for a small-scale producer like me. Like I said, I register with them. You have to have a license to operate your roadside market, but they don’t actually do any extension work. The Fraser Valley Farm Direct Marketing and Lower Mainland Horticulture and Food Association do more of that; they do the extension work and try to get you to do new things and try new ideas. They’re always coming up with bright ideas but most of their bright ideas have to do with agro-tourism rather than production. I’m not sold on that. I think when you start concentrating on agro-tourism your production starts to fall because you’re not concentrating on it. It’s sometimes the beginning of the end of a good farm when you start concentrating on tourism instead of production… They do a fairly good job doing facilitating access to local markets. They try to help the different agencies keep in touch with the local markets, and it’s worked pretty well… the same in the Okanagan: Safeway won’t buy anything from the Okanagan growers any more because they want it to come out of the warehouse in Burnaby. But the [Vegetable Marketing] Commission tries to fight that. They try to encourage buyers to buy from the local producers. What’s been lost from Safeway has been regained with Superstore; they’ve been buying locally grown produce now. Five years ago they never bought any. So that’s a complete switch. It’s done very well. They buy more of the local produce than anybody else now… One of the problems that the interior growers complain about is that the buyers expect instant service several days a week. They expect you to deliver Monday, Wednesday, Friday, so you have to take your truck and it might be a hundred miles away, and they might only want half a truck-load or something like that. It’s a big deal for those guys in the interior. But here it’s not such a problem because we’re close to the major market. They used to gather funds from the growers... for research and product development and such, and they would administer the funds... to researchers. It could be reactivated. The commission could become more effective that way, if they realized it was their responsibility.

Question 3b: What would you like to see the Marketing Commission do for you that it is not?

Conventional producers had the following suggestions about how the Commission could work better for them: amalgamation of the Cranberry Commission and the BCVMC (though this farmer was not a cranberry producer); extension work; greater market organization to maintain farm size diversification and keep growers together; regulate quota better by maintaining quota’s integrity and value for the growers. Only one conventional producer interviewed did not know how the Commission could assist them or the industry. Alternative producers wanted recognition and fairer rules for organic production and marketing, including making U.S. marketers certify organic in B.C. — as B.C. marketers must do in the U.S. — in order to ship their produce into the B.C. market system. Two alternative producers suggested that as the Commission’s focus was conventional marketing, they believed that a
conventional vegetable marketing board could not service the organic community. Instead, there should be an organic vegetable commission and organic marketing board. However, one small-scale organic producer suggested that setting minimum prices that reflected the cost of production could be an appropriate component of the Commission’s mandate.

Conventional producers

- **Amalgamation:** “I would like to see cranberries and our Vegetable Marketing Commission here amalgamate. That may or may not happen. BC Hothouse is under our marketing commission. They are by far the largest contributors, too, as far as funds are concerned. It functions very well. It’s the product of many years of trial and error” (GNpc)
- “I don’t know” (GRpc)
- **Extension work:** “I don’t think they do anything for a small-scale producer like me. Like I said, I register with them. You have to have a license to operate your roadside market, but they don’t actually do any extension work” (IOpc) (see Box 5.20)
- **Market organization and maintain farm size diversification:** “I think you need a commission to keep the market organized and to keep growers together. I think if we lost the [Vegetable Marketing] Commission we’d lose a lot of the small growers like ourselves and some of the bigger growers. If there was no Commission and no regulating agencies a big grower could step in and take the market over. That’s what they’re doing and I hope they continue…” (OBpc)
- **Regulate quota better:** “I would like to see the [BC Vegetable] [M]arketing [C]ommission do what their mandate is, and that is to regulate the quota systems in a better way, because there have been costly mistakes on their behalf, which have hurt farmers…. this farm has been an established farm with quota built up over the years and even at that, our quota is being decreased for different reasons, and that shouldn’t happen…” (OSpc)
- No: “I think it’s up to us to seek it out if we need it, but at this point things are going along quite well. I think they’re working on the food safety, and I think all farmers will benefit from a structured thing. They definitely are proactive on that. We talked to a few of the representatives who have come out and we’ve walked through the farm, and they’ve identified things that we need to look at. I think that’s an important function” (XHpc)

Alternative producers

- **Fair rules for organic:** “Leave us alone. Well no…it’s beyond me why organic product can come up, only being certified from the [U.S.]. Why don’t we say, ‘Hey, if you don’t certify up here, pay the bills here, then you’re not shipping your stuff’… We are willing to expand our operation to meet higher market demand as long as it’s profitable. It costs you to expand” (FFpa)
- **Recognize organic:** “Sometime in the seventies or early eighties I went to them… I have this farm… I’d like to register. They said you’re organic, we don’t recognize organic…So long as your price is higher than conventional price we don’t ever want to see you…Some of these bigger growers grow for processing… and they dump a whole pile of really marginal quality compared to the beans I am selling…If you go into Safeway, Save-On Foods you look at the quality, you know why they are 59 cents… I think that orderly marketing would help. RBpa has been our supplier of zucchini and we are going to keep buying it… and we’ll buy from JVpa after RBpa doesn’t have enough. But the way it works in the organic industry is you’re first one out there with the product then they buy from you for the whole season” (RFpa)
- No, they’re focused on conventional marketing: “I don’t want them in there anyway, not setting any prices; I don’t want anything to do with them. I don’t believe that a conventional
vegetable marketing board, a conventional marketing arm, can service the organic community. I think it has to be a totally separate entity. If you’re going to get into marketing and marketing boards and vegetable commissions, then you have to have an organic vegetable commission, an organic marketing board” (JVpa)

- No (RGpa)
- Set minimum prices that reflect real cost of production: “Leave us alone. I like marketing my own produce. I like that freedom... There are reasons people are charging a lot cheaper prices. A lot of people have [other] markets and they can come to the farmers' markets and just dump unsold product. It’s an inferior product and cheaper, [and] it drives the price down for us because we cannot compete... I think the only thing I can see being useful is to set a minimum price that reflects our costs of production... I think eventually we’re going to have to connect with some level of marketing system, and I’d much rather do it on our terms than to totally reject [the Commission] and have them muscle their way in... we still have to be part of the overall system... We may need to include from the small farms to the huge farms that are organic in name only... Because we are different; we’re totally different” (AVpa)

**Question 3c: In what kind of alternative local marketing arrangements would you participate?**

One conventional producer indicated he was interested in a new marketing program for non-regulated produce. However, there was no leadership in the province to bring together farmers or the ability to know the buyers under such a scenario. Another producer was developing a marketing agency within which growers combined their production, skills, distribution, and land base to organize their collective organic production and market potential. Two other conventional producers were not interested in alternative marketing arrangements. One noted that he considered cooperatives as inherently poorly managed and to create another would be to create an unnecessary processor bound to failure. As a direct marketer, another conventional producer said he was not interested in another market arrangement with the possible exception of the manifest system (i.e., purchase order). Among alternative producers interviewed, two participated in the Langley Organic Growers, which they considered a *de facto* marketing cooperative. Another producer considered cooperatives unnecessary as his family had successful market arrangements established without a cooperative. Other than expanding his on-farm marketing capacity, a fourth grower was not interested in alternative arrangements.

**Conventional producers**

- Adequate land base: “We don’t have enough land base to even begin to dream of something like [cooperatives]. With peas, beans and corn, for a new processor to start up to do corn is impossible; the [seasonality] will not permit it. Peas and beans; there’s no land base for another processor for that. So that will not happen. A cooperative is just another processor” (GNpc)
• Not interested: “I wouldn’t be interested in anything because I’m a direct marketer. Direct marketing isn’t a niche market but it’s suitable for me” (IOpc); “There is the opportunity though to sell outside the system, it’s called the manifest system. You just phone the office and get a [purchase order] number. And we do sell a few to restaurants, but it’s not a huge amount. You’re probably taking business away from yourself because you’re probably cutting into somebody else you’re already supplying” (OBpc)

• New marketing program for non-regulated product: “An alternative would be to have an actual marketing program for vegetables in this province, for non-regulated product. Let the regulated product go with the Marketing Commission: let them do the bigger crops, and any niche marketing actually. But we really have no leadership in a marketing program for vegetables in this province… It would work if enough farmers were on board and really wanted it to work…. it’s the ability to know the buyers and have a handle on that” (OSpc)

• Marketing agency: “We work with a few other growers already; combining our production and our skills in different areas, and our land base, in order to get the rotation that we require for organic farming… we work closely with quite a few other farmers. We also work with other farmers up the Valley to combine our distribution… the marketing agency would solidify that a little bit more, maybe make it a little more structured. Right now it’s fairly loose. I would like to work with that” (XHpc)

Alternative producers

• Cooperatives unnecessary: “We’ve never had a need for them. I made my own market arrangements… We started on our own and it stayed that way because it was successful” (FFpa)

• Marketing cooperative: “Langley Organic Growers is a marketing cooperative. What we do with them is we each have priorities on selling different items… when we sell to the market, we send what we have together… we ensure that we always have a lot of variety at the table, and that everybody has a fair share at selling stuff. It does work out pretty evenly. It varies from market to market… But when you work it all out I think it’s pretty even. It’s a really well organized cooperative. Everybody has a say and it’s as fair as you can get. We use that model here on the farm… to keep track of who sells what and who has priorities and how we manage everything” (AVpa)

• “Very little” (RFpa)

• Expanding current operations: “People have bugged me to go the farmers’ markets… but my farmers’ market is here every day. I’d have to hire another person, and I don’t produce enough stuff to do that sort of thing, it’s more of a headache… it’s as busy as we want it to be. Though we just built a large barn, so that’s my next store… So we are expanding that way…” (RGpa) (see Box 5.21)

Box 5.21. Producer openness to market alternatives

| RGpa: Probably not. I would like to see communication amongst the farmers as far as markets go and to set standard prices. For instance, going to the big stores around here – Safeway and Save-On – it’s a different scale. I don’t have enough land and these guys have hundreds of acres. They grow ten-acre patches of lettuce and that’s just insane for me to even think about. If they sell a box of lettuce for $7 to $10/case of 24 head… If they get 50 cents/head in their store, they’re happy. But that effort is so much more: to pick it fresh, clean it up, bring it to the store, and display it – 50 cents is brutal. Having a store and having employees… if you know that you’re getting 25 cents/head, then fine. But setting up the store, paying for the power, mortgage, whatever, when you add it up and sell it for 50 cents/head, it’s crazy. So I’d like to communicate with other market gardeners and set a standard price for lettuce for instance… If everybody does that then it’s fine, but we’re just dealing in pennies here. I’ve had people say, “Down the road they’re ‘two for a buck’.” Sometimes we’ll have an abundance of a product and we have to get rid of it, so for the next few days we’ll sell it ‘two for a buck’. So communication amongst special market gardeners on pricing would be a thing to consider. |
Question 4: How do you dispose of the food “waste” from your operations?

Many conventional producers disposed of food waste from their farming operations in several ways: diskimg or ploughing waste produce into the soil, and using produce culls (i.e., product not within market standards) as supplementary cattle feed. Another producer channeled produce for processing grade. Only one conventional producer interviewed composted waste produce. Alternative producers typically had more than one channel for food waste, composting being the most cited method. In addition to composting food waste was used as supplementary livestock feed. All alternative producers donated some portion of their unsold produce to the Vancouver Food Bank. Two producers ploughed unsold and inedible produce into their farm field(s).

Conventional producers
- Tilled in: “Don’t have any food waste; it’s all called green manure and it gets disked in” (GNpc); “My husband ploughs it back into the ground most of the time… The only other thing is the plastic we lay on early crops, and that we dispose of at the disposal” (GRpc)
- Animal feed: “I have cattle; they eat it all. We don’t waste anything” (IOpc); “We feed most of our culls to our cows” (OBpc); “Product that is not within market standards goes to cattle feed. It is approximately 20 percent of everything we grow. Because there is no chipping factory or soup factory around a lot of this product is wasted. Even the soup factories will buy only number one product that is clean and ready for them” (OSpc)
- Processing grade: “Depending on the price of it, we have sent some of it across the line…for making potato flour or potato flakes” (OBpc)
- Compost (XHpc)

Alternative producers
- Compost: “Much is tossed into the compost pile” (FFpa), (AVpa), (RBpa), (RFpa)
- Animal feed: “…given to the neighbour’s cows. It’s the community effort…” (FFpa), (RFpa); “We give it to the chickens” (AVpa); “We have a farmer with cows and he picks it up three times a week” (RGpa)
- Tilled in: “Most of the waste just gets tilled back in” (FFpa); “Sometimes we plough it in the field. It depends on the nature of it” (JVpa)
- Donated: “There is some that is not really waste; it’s more surplus that will go to the Vancouver Food Bank or other charitable organizations” (JVpa), (AVpa), (RBpa), (RFpa); “…we do a large donation to the Vancouver Food Bank. They’ve come two or three times a season for something that we’ve over-produced and can’t sell” (RGpa)

Question 4a: Under what circumstances could you accept food waste from your buyers?

Three conventional producers said they would accept waste produce from their buyers; two if it were clean for composting or livestock feed, and the third if it was their own produce rejected by the buyer. The fear of introducing disease into their farm systems prevented producers from accepting waste produce from their buyers. All but one of the conventional
producers interviewed would not incorporate the produce directly into the farm soil; only after composting or as composted livestock manure. Only the producer who accepted his own produce rejected from the buyer would directly incorporate it. All but two of the alternative producers would not accept waste produce from their respective buyers; and in the exceptional cases, only if it were guaranteed to be organic produce culls or the producer’s own, rejected product. Those who accepted waste produce in the past had negative experiences doing so. One producer had no interest for the potential risk of disease and his organic certification, as well as the cost of the necessary infrastructure to compost properly.

Conventional producers

- Composting: “I would take it any time. I just dump it in a big pile in the slurry pit behind the barn; it would compost down and spread it next spring. Because I am fully contained, there is no runoff that comes out of that” (GNpc); “We haven’t done it. We have had one buyer – a juice company – who would bring their pulp out and we would add it with our compost. But other than that it really hasn’t come up that often. We would want to look at for the possibility of bringing disease onto our farm. Are they giving us strictly cull product or are we getting their packaging?... If we had disease problems that would cause us to be barred from shipping to the USA. We watch that fairly closely. We also do seed production so it’s very important that we don’t introduce any other diseases” (XHpc)
- Tilled in: “If something went out and they reject it and not pay for it, it goes back with us; it’s our responsibility” (GRpc)
- No: “I wouldn’t do that. I’ve seen problems with that. In the past, people have introduced diseases to their farms from produce that came from the U.S” (IOpc)
- Animal feed: “You could take potato peelings and whatever...there’s probably a market out there for cattle feed, but we went through that a few years ago... It has to be clean; it can’t be a garbage dump for them... the thing is with potatoes, someone may have been growing potatoes on the same piece of ground for five or six years, so they’ve probably got a buildup of certain contaminants... there could be anything in there. You start taking stuff from other farmers you might be setting yourself up for some kind of problem if you’re putting it back on potato land” (OBpc)

Alternative producers

- No: “Tried it. Too much plastic and uncompostable material in it” (JVpa); “I really wouldn’t want to take on stuff from my neighbor, even to feed to my cows. We were doing that for a little while but... there was a lot of rot in it and you’re dumping them with a forklift and then the forklift is back in your pit. It’s best to leave it alone. There are a few dairy guys that take stuff and none of them are in the vegetable business so it’s totally safe for them” (AVpa); “Not unless I knew they were organic. I don’t have the facility to process compost” (RBpa); “I have no room to put it. We’ve got so much yard here, I don’t have a compost pile. I buy a lot of stuff from other farms. If I set up a proper composting pit where it got to the proper temperature to kill any pathogens or diseases, it would work but it would have to go in my field somewhere, and I’m not about to spread someone else’s product in my field... Why risk it? If I had a separate concrete slab with a roof over it, and a big Cat where I could go in there every week and turn it... it’s just another $10,000 thing I don’t want to deal with” (RGpa)
- Compost: “My own product” (RFpa) (see Box 5.22)
Box 5.22. Acceptance of return food waste by producer

RFpa: My own product. I haven’t been in the habit of taking other peoples product. Mostly because I know what I do on my farm. I will buy manure but I’m not in a position at this time to take in other peoples food waste because our farm is pure, we don’t compromise. I mean if we’ve got aphids we’ll deal with it somehow, but we’re not going to use the biological organic allowed. Somebody out there is sensitive to it and we don’t want them to come back to us and say they can’t buy our product anymore. Most of my customers when I talk to them would rather have a aphid on their broccoli.

BC Vegetable Marketing Commission (RDm)

Question 1: What are the most important factors that determine a producer’s success in marketing produce in the Lower Mainland?

There are limited market opportunities for produce growers in the Lower Mainland where small regional operations represent less than 10 percent of the market place. The market in the produce industry is polarized. The local market is highly segmented at one end of the spectrum but equally cohesive at the other. The segmented end is represented by hobby farms, U-pick operations, market gardens and store-front vegetable operations, and the cohesive end is represented by the Safeways, Save-on-Foods and Superstores. Therefore, capacity to access the mainstream marketplace represents the most important factor for a producer’s success, in other words, their go-to-market approach.

Limited market opportunities
- “Capers and small regional operations, that’s a whole different ball game, because you’re now talking about well less than 10 percent of the market place. There are two completely separate markets out there. One is the mainstream marketplace where 90 percent of the people buy their product”

Capacity to access mainstream marketplace
- “The most important factor that determines a producer’s success in today’s world is access to market, which depends on what their go-to-market approach is. Where you are planning to access the wholesale-retail distribution network of the major chain stores of today’s world, you have to have consistency of supply and quality... in order to access what I would call the mainstream marketplace... you would have to hook up with other producers in some type of a cooperative or marketing agency arrangement. It is critical to have critical mass or volume of supply... Your ability to do that is predicated on your ability to be recognized as a reputable supplier and a consistent supplier, for significant periods of the year”

Market polarization
- “If you want to be just a small local grower who is... just interested in doing local business, then you’ve either got to be small enough... because if you’ve got any kind of volume on a commercial basis, you can’t do that... you have to have access to the mainstream marketplace... I see problems in the future of being a mid-sized operation. You want to market your own product but you’ve got 50 acres... its too much work. The market is not big enough to market my own product, but yet I’m not big enough to be a commercial operation, to be specialized, and so on”
Local market segmentation
- “I see the industry segmenting, where you’ve got a lot of smaller-type hobby farms who will be doing everything from producing their own honey, to jams, to U-pick operations and little store-front fresh vegetable operations… That type of direct marketing approach will be on one side for the smaller producers… on the other side, [they] will be growing either for the processing market, where they can buy a machine and harvest their product and ship it to a processor, or… large enough to hook up with a larger group to to access the mainstream market”

Question 2: Do you think food safety and bio-terrorism present barriers to produce trade and, therefore, British Columbia food security?

The cost of doing business includes overcoming obstacles in the mainstream marketplace. Non-tariff trade barriers that may arise as a result of international food safety or bioterrorism concerns is part of the cost of doing business.

Cost of doing business
- “I think that any time that you’re into the mainstream marketplace… there are roadblocks… when it comes to selling outside your country… You’ve got all kinds of tariff and non-tariff trade barriers, everything from phytosanitary issues to local bio-terrorism. That isn’t going to stop. It will make it more difficult for those individual producers to be able to afford to go through all the administration. But if you’re with any kind of organization that does any kind of volume… you usually have the staff, and it’s just one more administrative hurdle… And it’s not easy; no argument about that. So again, either you’re in that game or you’re not”

Question 3: What viable marketing opportunities exist for BC vegetable producers in the Lower Mainland to market in the LM that could or should be developed?

Marketing opportunities that emphasize familiarity, diversity and connection with the product and producer have potential to be viable marketing approaches. People will identify quality produce and personal attention with the producer and their operation. Also, there are opportunities for consumers to reconnect with rural lands and agriculture through market gardens and on-farm retail operations. However, producers should consider specializing for opportunities in mainstream marketplace.

Familiarity and personal connection
- “People generally get better quality because they’re getting it fresher, they identify with the person growing it because they know there’s a lot of personal attention paid to it… they know where the product is coming from, and they have a comfort zone with it. So I see that type of business developing, because I think people get off on that, for all the right reasons, too”

Familiarity and local diversification
- “I think when you’re getting into the small local market, like the market garden concept, you’ve got to have a wide array of things that attract people to your operation. People aren’t going to drive out of the city to just buy a sack of spuds. They want to go out and buy a half a dozen items and maybe some jams and so on. They want to have a selection… So the
smaller guys have to be more diversified and offer a broader program, where the commercial producers have to focus more on three items or less”

Opportunities for reconnection to rural lands and food
  • “All you have to do is drive around British Columbia, Vancouver Island, the Interior, the Lower Mainland, it doesn’t matter — there are people who are taking advantage of what I call the market garden opportunities out there… setting up their own retail operation. They’ll all have a little niche or draw of some kind. I see that continuing to expand… That kind of concept, will lead them to want to go out and explore opportunities, like taking your kids out to a corn maze, cutting your own Christmas tree rather than buying one from a Save-On Foods parking lot. Business is increasing and it’s all part of people’s adventure experience or entertainment dollar and their food dollar, all combined into one”

Familiarity and mainstream specialization
  • “As far as other market opportunities in the mainstream marketplace… I think in today’s world you have to specialize… the days of growing 10 different commodities are gone. We’re in a global village and you’ve got to be able to compete out there and produce food at a competitive price… So you have to make up your mind. You’ve got to grow one crop and make sure your productivity is there with efficient economies of scale”

Question 4: What are the most significant challenges facing vegetable producers in the LM in developing and/or entering local market channels?

Probably the greatest challenge facing producers who want to enter local market channels is the increasing demands regarding food safety and their capacity to have the training and infrastructure for the necessary accountability measures (e.g., traceability).

Access to capital
  • “I think your access to capital has never really changed in agriculture. If you’ve got a good business plan, you get financed up to two-thirds/one-third. It doesn’t matter whether you’re borrowing money to buy a house or buy a farm; you have to show the ability to service your debt”

Food safety and stewardship
  • “With respect to entering local market channels, I think there are greater demands on food safety in today’s world. I think most of the major purchasers of produce now require you to have certain guidelines… certain on-farm practices… And you have to have liability policies in place, for food safety purposes… I think that the cost of doing business is continuing to increase in agriculture, as there is more and more expected out of it as it comes to food safety and environmental stewardship. I think it’s going to be a very onerous burden on smaller operations”
Question 5: Could cooperative access to small-scale processing contribute to producer viability?

The processing side of vegetable business has been declining for 20 years and continues to decline as a result of the “global village concept” (i.e., globalization). However, there is niche vegetable processing opportunities in the local, diverse, fresh market.

Market garden opportunity - diversity of product
- “The frozen side is in decline; the fresh side is increasing. So those types of opportunities exist. And then getting back to things like jams and syrups and honeys and all those other kinds of funky things – there are tremendous market garden opportunities for that. People love that. I love that”

Processing industry evolution
- “…the food processing business in general, as far as frozen foods go, that area of the business has been in decline for 20 consecutive years. The reason for that is the global village concept. We now have, because of modern agriculture, and the vastly improved distribution networks around the world, the cooling facilities that are available at airports and rail destinations, we have tomatoes and peppers being shipped on fast boats from Europe to the east coast of North America; it takes six days by water in fast freighters especially designed to bring produce from Europe to the United States or the east coast of Canada. Those distribution systems were totally unheard of 20 years ago… So because of all these improved distribution mechanisms literally around the world… you open up your fridge and it’s a United Nations of produce in there. Now the competition is like a world-class competition for your fridge space”

Niche marketing opportunities
- “The food processing side of the business, particularly the frozen side of it, has continued to decline because quite frankly there’s no need for it… So because of that there are niche opportunities in processing. We now sell 10,000 tonnes of potatoes in the Lower Mainland that are destined for fresh fries sales into bars and restaurants through the food service industry on an annual basis. That business 10 years ago was 200 tonne or 500 tonne; it was non-existent, or it wasn’t even on the radar screen… Processing for packaged salads has boomed, where now probably half of all lettuce sales, is pre-cut salads in a bag… Therefore, you’ve been able to develop the other side of the processing business, which is the fresh processing business”

Question 6: How do producers acquire a larger market share?

Larger market shares can be acquired by accessing niche marketing opportunities through relatively smaller retail chains where scale and supply demand are manageable. YFsc is a perfect example of a store chain that has hooked up with supply chain arrangements throughout Vancouver Island, the Lower Mainland and the Interior of B.C.

Market polarization
- “YFsc is a perfect example of a store chain that has hooked up with supply chain arrangements throughout Vancouver Island, the Lower Mainland and the Interior of BC as well. It’s very competitive. Most of these guys, let’s not forget, are not British Columbian owned companies. They are owned by eastern Canadian or US firms and these guys have
head offices to report to, and the last thing they want is to be caught contributing to something that might not be in the best interest of their corporate master. They are multi-billion dollar industries... And you've got to get out there and play with the big boys or find your own little niche. There's nothing in between”

Niche marketing opportunities

- “I think you do it through smaller retail chains. You can't do it through the Safeways of the world; they are too big and they require too big of a supply, so you can't even get in the door because they can't afford to deal with you. You've got smaller regional chain stores. A good example is YFsc. But it's also growing, so they may run into the same problem as time goes on... they are still small enough they can afford to link up in a supply chain arrangement with a smaller operator to provide them with a product either year-round or at least for a significant period of the year and provide a program around it. You can't build a program around a guy who only supplies 60 days a year. It's not even worth your time to start the paper work on it... I think there are opportunities there, and I think it has to be with the smaller regional chains – the Capers, Thrifty Foods, and Fairway Foods. One-location operations have quite a local following and they can move a lot of product. So you hook up with a combination of those players, and there is an opportunity for you to get a kind of a niche processing type of opportunity off the ground. It has to be a supply chain arrangement where they see a benefit of handling your product, and it has to work both ways. There's more money in that as well, by the way”

**Question 7: What are the most significant factors that determine if vegetable producers receive a fair price?**

The important factors that determine a fair price for a producer are access to high quality, timely market information; development and engagement of a good marketing approach and business plan; access and participation to a dependable and quality supply base; and, development of a brand, image and reputation that demands acquires and maintains buyer loyalty. The Commission representative said that the larger the organization a producer belongs, the better the information, the better the access to an efficient distribution system and a better price that is available to the producer. In order to access the mainstream marketplace a producer needs a sizeable operation in order to be taken seriously as supplier, thus some kind of cooperative marketing structure (e.g., vegetable or farm cooperative or farmer agency) for an adequate supply base may be necessary. A cooperative or agency could play a vital role in meeting quality standards in a highly competitive market for loyalty to local product. Also, major grocery chains recognize there is consumer loyalty for locally grown produce in terms of quality and premium product. However, in terms of demographics, the Lower Mainland is more cosmopolitan, and that sense of loyalty is not as strong as in the Interior.

**Access and participation for agency**

- “Access to timely, quality market information is critical. And the larger group that you belong to, technically speaking, you not only have access to better information, but you have access to an efficient distribution system... While it may sound or look good on paper to cut out the
middle man, and sell your product directly to a retail operation, there’s a tremendous cost of doing business in that as well. You have to have your own truck and driver… cooling facilities… little warehouse distribution area, sometimes you have to have a shipper/receiver involved in that, and there’s all the paperwork involved, you have to have someone calling all these retail operations… and think you are going to get a bigger chunk of that consumer dollar, there are also considerable expenses that go with it. Quite frankly, some people do well at it, and some people would be better off hooking up with a larger organization because they are probably going to make more money”

Access and participation for timely and accurate market information
- “If you are going to access the mainstream marketplace, you have to do it with a sizeable enough operation that you are going to be taken seriously as a supplier, and ensure that you have access to good market information… Following the North American produce market, and what these guys can buy product for on a daily basis is almost as complex as watching the stock market on a daily basis… You have to have access as to how the markets are fluctuating, so you know if you’re leaving dollars on the table. To be able to have that information you have to be part of an organization that has sufficient critical mass or staffing capabilities… So an individual farmer is at the mercy of the buyer. I would put access to information at the top of the list” (see Box 5.23)

Access and participation for a supply base
- “If you’re going to be a player in the larger, go-to-market strategy, then you have to be hooked up with a supply base, either a coop or agency, and we have eight marketing agencies in British Columbia, that market close to $300 million in sales a year. Those are all producer-owned operations. And then we have over another hundred what we call producer vendor licenses, where producers sell direct to the public through some kind of fixed permanent stand on their property”

Demographics
- “The Lower Mainland is more cosmopolitan because half the people who live in the Lower Mainland now were not born here… So that sense of loyalty in the Lower Mainland is not as strong as it is in the so-called ‘Liberal Hinterland’… However, the Lower Mainland is 75 percent of the BC market. There are opportunities, and our agencies in the outlying areas have far more latitude, and are paid better than our growers in the Lower Mainland. Our growers in the Lower Mainland are expected to compete. There is loyalty out there, and I think that capitalizing on BC-grown is about having an identity that supports our local environmental stewardship, our producers and our community. People will pay a premium for that attitude. There is a limit, but they will pay a premium”

Evolving business acumen
- “You have to be half nuts, in my opinion, but anyway…. there are a heck of a lot easier ways to make money than the agriculture business. It’s highly capitalized the profits or return on investment, compared to most industries, is laughable. The romantic notion that it’s a way of life, I think, has disappeared. It’s much more of a business now… Even if you’re a market garden operation, you’ve got to have a good business, good market approach, and good business plan in order to be successful… I find most of the people in the agriculture industry now are pretty bright business operators; they have to be in today’s world.

Quality assurance
- “There is no room for second-rate quality out there. There is too much competition; too much first-rate product available to consumers on a daily basis. If you don’t have quality, you will never make money… We see all the BC chains wanting to have some degree of a BC presence in their lineup… if you can meet their quality standards, they will to some degree
give a little extra latitude – maybe by paying you a little more money, recognizing that you
can’t supply for 12 months... So there is some loyalty there”

Loyalty to BC product
• “I think that even the major chains recognize that there is consumer loyalty for locally grown
product. Whereas, as few years ago when they were all moving to central buying, when
Safeway moved their head office out of Vancouver over to Calgary [to Phoenix and then
moved it back to Calgary, and then Overwaitea moved theirs to Calgary and then moved
it back, BC producers started to suffer, because there was some loss of loyalty to BC product
when they did that. That has turned around again, where we see all the BC chains wanting to
have some degree of a BC presence in their lineup”

Box 5.23. Access to timely and quality market information

| MDm: | Access to timely and quality information are two key factors. I’ll just give you an example in greenhouse pricing. I access USDA information on a daily basis. I hold conference calls twice a week with my counterparts in Ontario, talking about what their supply base is like, what’s happening on the east coast, what’s arriving from Holland by air, when is the next boat coming in, and what the pre-bought price is like. I talk to my counterparts in California and sometimes in Mexico. I hold a conference call on a weekly basis, sometimes twice a week, with my marketing agencies here in BC. It’s a steady flow of information. We continually know what is happening, what is coming down the pipe. We’re anticipating where shortages are going to be, where anticipated surpluses are going to be, so we can book in the ads and try and get ourselves through certain areas. It is a daily grind. It’s just part and parcel of sharing information so that our growers don’t leave money on the table and we give them the best opportunity to get the best dollar out of the marketplace. So by being part of our organization, that’s one of the services that is supplied. We help gather and coordinate that information. Growers who are out there on their own are hooped when it comes to access to information. They can check the internet and everything else, but by the time it’s on the internet, it is old news. They’re not dealing with what I call good market information. That is very difficult for producers. So they’re at the mercy of buyers. Particularly when you are dealing with perishable product. You’re looking at stuff in your cooler that is now more than two days old. You don’t like to keep more than a two days’ supply and the next stuff is coming in the back door, and all of a sudden panic sets in. Buyers have a tremendous success rate at taking advantage of that. Information is critical, and you can’t get information unless you are part of a larger group. The larger the group that you belong to, technically speaking, you not only have access to better information, but you have access to an efficient distribution system. |

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CHAPTER 6: DISCUSSION

This chapter was set up into two distinct sections, each focused on a separate research question. In the first section I summarized the key findings for buyers, producers and the BC Vegetable Marketing Commission from the comprehensive interview results in Chapter 5. Here, I addressed the first research question: “How do BC Lower Mainland producers of fresh fruits and vegetables and Vancouver food buyers perceive their current and future local food sourcing and marketing relationships with the global marketplace and with each other?” My approach to answering the first research question was predicated on the questionnaires and delineated into four logical categories: buyers’ typologies, producers’ typologies, B.C. Vegetable Marketing Commission, and food waste.

In the next section I discussed local-global dimensions for local food and agriculture market opportunities in light of the key findings. Next, I address the second research question, “What local food-and-agriculture market challenges and opportunities can the Vancouver Food Policy Council develop or promote?” My approach to answering the second research question was predicated on local market barriers and opportunities identified by the research participants, and delineated into five meta-categories that proved significant: market sophistication in the go-to-market approach to reducing market uncertainty; value-chain management in the form of coordination, embedding value and creating brand; community economic development that lends itself to building local food networks; cooperative business strategies; and, regional food system planning.

Summary of Key Findings

This thesis explored the possibility of re-localizing the Lower Mainland food system by first asking, how do B.C. Lower Mainland producers of fresh fruits and vegetables, and buyers in the City of Vancouver, perceive their current and potential capacity for local food sourcing and marketing relationships? Second, given that there are discernible benefits to re-localization of the horticultural supply chain, what recommendations can be made to inform public policy development that facilitates re-localization? To answer these questions, I examined within a case study format the market relationships among buyers and producers
to gain an understanding of the barriers and opportunities they understand to exist that inhibit or strengthen re-localization of horticultural supply chains the Lower Mainland.

In the producer and buyer cases I usually presented observations of the conventional respondent first, then their counterparts, the alternative respondent. I reserved the BC Vegetable Marketing Commission (BCVMC) discussion for separate consideration because the interview participant was a long-established and well-respected producer in the Lower Mainland, and his position within the BCVMC provided what I considered to be a thorough and articulate understanding and of both regulated and unregulated horticultural production and marketing in British Columbia. It may prove useful before continuing to review the distinctions between conventional and alternative on page 91 in the Research Methods chapter.

It should be noted that since these interviews were concluded in 2005, the concept and marketing of locally produced food have gained increasingly greater attention regionally and nationally:

- More restaurants in Vancouver have dedicated their menus to locally produced foods and have held events highlighting local foods;
- Mainstream media and books have been written regarding the experience of, and extolling the potential for, 100-mile diets and its variations;
- The number of community kitchens increased in Vancouver and other municipalities within BC, focusing on local ingredients when they are available;
- The Vancouver Food Policy Council was formally established as an advisory committee to Vancouver City Council; and,
- The City of Vancouver set out to establish 2010 community garden plots in Vancouver as a 2010 Olympics Legacy project

In addition, since 2005 several important food security research projects were conducted by the provincial government (B.C. Ministry of Education, Ministry of Health, and Ministry of Agriculture and Lands), community economic development organizations such as the Centre for Community Enterprise, B.C. universities (Simon Fraser University and the University of Northern British Columbia (UNBC)), graduate-level research (Simon Fraser University and The University of British Columbia) and a growing number of private consultants. This food security research focused on topics such as BC’s food self-reliance (BC MAL 2006), an assessment of Vancouver’s food system (Barbolet, et al. 2005), a report on buying and selling local food products (Mark, et al. 2006) and, a development framework report for a community food enterprise centre in Vancouver (Mark 2007), urban agriculture
potential in Vancouver by a UBC School of Community and Regional Planning graduate student (Chiang 2007), the Community Food Action Initiative (B.C. Ministry of Health), and the economic and community impacts of farmers’ markets in B.C. by UNBC’s The ‘Good Food’ Value Chain research program in the School of Environmental Planning (Connell 2006):. Together, these recent studies highlight the potential of local food production and purchasing to contribute to community economic development, to provide healthy alternatives, to maintain open-space and environmental support services, and to support economically viable and sustainable agricultural production,. Significantly, however, none of the recently published reports and assessments includes a systematic examination of the buyer-producer relationships from the perspectives of conventional and alternative producers, as well as from a wide variety of buyers as did this study. Thus, the unique results of this study provide either substantiation or insight into the conclusions or premises of some of these recent studies.

**Buyers’ Typologies**

Conventional buyers expressed loyalty to a single source, from whom they were confident that delivery or distribution would consistently occur within agreed standards and timetables. Conventionally, they depended on just-in-time deliveries from distributors, of whom they had little personal knowledge, but with whom they had long-term business relationships. Similarly, conventional buyers had little knowledge of producers within their supply chain. However, where it existed there were efforts for mutual accommodation of business goals and needs with a producer.

How horticultural product arrives to their place of business consistently raised the important issue of logistics of delivery standards and timing. Gone are the days where a multitude of producers or re-sellers made deliveries at the back door. They purchase from suppliers who have the storage and delivery infrastructure, and who must follow regulated operating standards. Conventional buyers systematically chose one or two shippers or distributors who adhered to those standards, as well as those who instilled confidence and trust from predictable deliveries. For alternative buyers these distributor relationships were more complex, multiple or redundant, and self-involved. Alternative buyers typically had more elaborate descriptions of how their food was delivered betraying an extensive knowledge of the logistics, infrastructure and processes involved. This contrasted noticeably with conventional buyers whose descriptions appeared far simpler which may be a reflection of
the convenience of single phone call ordering. For all, building trust and confidence meant that their business success was important to the supplier with logistics figuring largely in their relationships.

Among those interviewed, just-in-time delivery appeared to be a standard operating procedure and expectation. With a minimum of two deliveries of fresh produce per week (and as high as seven for some conventional buyers) all buyers were highly dependent on just-in-time delivery for their fresh produce. More frequent inventory turnover of produce and the particular demands of institutional food services demand more frequent deliveries. Institutions that provide food service or host events sometimes require more frequent deliveries, and/or on very short notice. However, what may distinguish alternative buyers from their counterparts in this study, especially wholesalers, restaurants, supermarkets and home delivery services, is that they will accept shipments direct from the producer. For all, the ability to be connected to a well supported and high technologically capable and equipped infrastructure and organizational capacity was critical.

Conventional buyers considered the influence of personal knowledge of their supplier to have an effect on their purchasing decisions in terms of flexible pricing, delivery options, and adaptation to changing business circumstances. Where this relationship existed, it likely developed over time allowing confidence and trust to emerge. The influence of personal knowledge of one’s supplier on their customer relations meant that the buyer could be more flexible and adaptable to accommodate customer preferences or supplier circumstances. In addition, buyers could be influenced by customer awareness and knowledge regarding quality produce, possibly influencing personal and business ethics. Therefore, such relationships with customers meant that produce could acquire embedded values that may not have otherwise been present.

Sourcing procedures among conventional buyers could be defined as a common professional practice – rather than an official policy – of contacting one supplier. However, depending on specific needs and priorities, that process could become more complex. These procedures satisfied buyers’ needs for accountability, reliability, spot availability\(^1\) of variety, predictability, price competitiveness, and consumer expectations. When this procedure included or could include purchasing directly from a local producer, conventional

\(^1\) Spot availability refers to impromptu opportunities to secure product whose availability is unexpected.
buyers indicated that price and customer price sensitivity, resource efficiency, supplier service, product quality, supplier reputation, terms of tendering, and labour and time economies using pre-processed product were important considerations. For the few conventional buyers who do so, the benefit of sourcing locally is an ability to exercise personal initiative or knowledge/creativity to ensure quality standards are met. The conditions to increase their sourcing of produce locally and/or directly included: cost effectiveness, timeliness and reliability of delivery and consistent quality; an understanding of customer willingness to pay; and, expanded opportunities for season extension as important considerations.

Alternative buyers were more likely to have direct, multiple and sometimes redundant supplier relationships with which they shared solidarity and common values with regard to Like conventional buyers they expressed loyalty to suppliers with whom they were confident that delivery or distribution would consistently occur within agreed standards and timetables. Likewise, alternative buyers relied to a great extent on just-in-time, but would also accept shipments under pre-arranged conditions directly from the producer.

Their knowledge of their supplier appeared more intimate and detailed. This more personal or intimate relationship meant consistency in quality, availability and price competitiveness. Built on rapport and trust, these relationships were long-term and mutually beneficial. To a greater extent than conventional buyers, there was mutual accommodation of business goals and needs between the alternative buyer and his/her/their producer. Not unexpectedly, the influence of personal knowledge of one’s supplier on their customer relations, meant the alternative buyer could be flexible and adaptable in pricing and delivery to accommodate customer preferences or changing business circumstances. Likewise, because a sense of loyalty or solidarity around organic produce existed between buyer and customer, the alternative buyer could be more easily influenced by customer awareness and knowledge to purchase different, quality produce. As such, quality and other values become embedded in the fresh produce they source and purchase.

Sourcing procedures for alternative buyers were typically more complex than for their conventional counterparts, but could be simpler depending on the buyer’s specific needs or business profile. As with conventional buyers, alternative buyers did not have an official local or direct purchasing policy, but had procedures that were defined to satisfy needs for
accountability, transparency, balance, reliability and predictability with suppliers and customers. However, alternative buyers typically included environmental and sustainability concerns as important considerations in their purchasing and sourcing. In contrast with conventional buyers, there was a need for greater communication with, and knowledge of producers regarding the availability of local produce. In addition, procedures were further defined by their commitment to quality, supplier reputation, and business ethics for both buyer and supplier and, like their counterparts, efficiency of labour, time and financial resources. Like their conventional counterparts, alternative buyers wanted the ability to exercise personal initiative and creativity to ensure quality standards, but in addition, they had personal beliefs, values and commitment to organic produce, environmental health and sustainable food production.

Alternative buyers noted that to increase local food sourcing, there needed to be an increase in the number organically certified producers, access to knowledge about the producer, more development of trusting business relationships with producers, and a facilitated access to infrastructural support services that would allow more value added product to enter the local market.

Producers’ Typologies

Conventional producers collectively had many market channels in which they actively participated. Most participated in one or more channels simultaneously. These channels consisted of direct on-farm retail and direct off-farm retail to individuals at public markets and farmers’ markets, as well as to brokers, processors, marketing agencies and wholesalers. Most, however, typically had one but no more than two marketing channels, with one channel consisting of volume sales.

Producers believed their buyers purchased from them for their unique varieties, consistent quality and price, possession of quota, and because they are appropriately equipped for necessary scale. They chose their buyers because as conventional producers they wanted to move large volumes of produce, and in the case of those few that sold direct, they wanted better value, lower transaction costs, freshness, ease of selling, and personalized business relationships. When asked about potential local marketing opportunities, several conventional producers mentioned farmers’ markets and a few retail customers, indicating they did not see a wide variety of options available to them. Conventional producers
discovered their current marketing channels through market research, word of mouth and their association with the B.C. Vegetable Marketing Commission.

Conventional producers’ economic viability was stable by having knowledge of their buyer’s processing capacity. Collectively, their chosen marketing channels had an impact on farm operations by, increasing inter-diversity of produce that suited buyer demand, extending market presence through season extension, incorporating information technology, and better land stewardship to maintain market opportunities. Though desirable, conventional producers typically did not want the time and expense involved with expanding their operations; they were already experiencing compressed and competing timelines for production along with shortages of affordable labour. Where the next generation was keen on continuing to farm, there was a difference in business priorities and goals. Where government regulations regarding habitat protection were raised, compliance negatively impacted production capacity.

Marketing barriers noted by conventional producers were lack of processing facilities in the Lower Mainland, the affordability of labour and loss of control over land stewardship. All producers said they received a fair price for their product, and noted that their criteria for fair price included whatever the market will bear and anything that will move product. In terms of marketing locally, a fair price had a different set of criteria, including reliable daily knowledge of the market, buyer appreciation of quality and uniqueness of product, buyer’s willingness to pay more, buyer’s acknowledgement of value realized from a consistent and reliable supply, and buyer’s acknowledgement of producer reputation, integrity, efforts at land stewardship, certification requirements, and food safety precautions.

The BC Vegetable Marketing Commission played a significant role for most of the conventional producers. Beyond its well known role as a selling agency to the processing industry, facilitating market access for its participating producers, and setting prices and product quality standards, producers see the BCVMC as becoming innovative by breaking quota down to specialty items, and assisting in the development of selling agencies. Conventional producers would like to see the BCVMC assist them with engaging in niche markets, regulate quota better to maintain its value, create greater market organization to increase or maintain farm size diversification, and do extension work. The willingness of conventional producers to enter into the local market would be greater if there were a new
marketing program for non-regulated produce, and an agency within which producers combined their production, skills, distribution, and land base to organize their collective production and market potential.

Alternative producers’ marketing experience consisted of farm-direct to various marketing channels, including restaurants, grocers, wholesalers, and home delivery. Several producers had on-farm retail sales as well. These producers seldom relied on one marketing channel, identifying a significant proportion of their revenue coming from direct retail to consumers at farmers’ markets, public markets and, as noted previously, on-farm retail.

Alternative producers considered their consistent quality and supply, their unique varieties, organic production, and direct communication as the reason their buyers purchased from them. Producers chose buyers who valued the trust and confidence begotten as a measure of their integrity and effort to produce quality product. Producers established long-term relationships with those buyers with whom they could communicate on a personal level and build trust. They discovered their markets through market research, word of mouth, trial and error marketing, advertising and informal communication with customers. Alternative producers considered direct marketing to be an inherently value-added process that provides them an economic advantage by proximity to the end consumer.

Collectively, their chosen marketing channels had an impact on farm operations by maintaining or increasing produce diversity to balance sources of main revenue among multiple market venues, understanding food and agriculture as a community system or whole farm system, extending market presence and product diversity through season extension, developing and maintaining cooperation with the farm family unit, and taking on a collective marketing effort with other producers in order to enter markets with adequate supply. Though desirable, and with access to capital funding apparently not an issue, alternative producers, over all, also did not want the time and expense involved with expanding their operations beyond their capacity to manage it themselves.

Though desirable, alternative producers were constrained from accessing multiple markets that were geographically and temporally distant, as well as for lack of permanent, full-time farmers’ markets or public markets. Producers identified several market barriers including limitations in capacity to enter markets with consistent volume within a specific timeframe,
lack of processing facilities in Vancouver and the Lower Mainland, and the cost of labour. Also, many alternative producers lack the necessary volume and infrastructural capacity to access affordable shipping, handling and labeling independently. Some alternative producers in the Lower Mainland and other parts of B.C. are fortunate enough to obtain assistance from their wholesaler/broker for access to shipping infrastructure, and/or the desire to carefully walk producers through the business planning and handling/labeling standards – as in the case with a wholesaler/broker interviewed in this study. Without the assistance and dedicated access to shipping infrastructure, knowledge of handling and labeling standards, and broad marketing channels, the producer’s ability to ensure timely deliveries of appropriate volumes to the satisfaction of multiple buyers, is inherently limited.

Alternative producers noted they received a fair price for their produce, but lacked access to timely market information. A fair price consisted of a fair return on their work and the real costs of production. In marketing their produce locally, which all alternative producers did, important fair-price criteria included buyer awareness of production and certification costs, buyer acknowledgement of market value for freshness, taste and proximity, buyer appreciation of agriculture’s contribution to the local economy, and buyer realization that cost of imported produce is artificially low.

All alternative producers had negative perceptions or experiences with the BCVMC, specifically its inability to encourage small farms to develop, and encouraging larger farming operations to obtain larger economies of scale. They would like to see the BCVMC recognize the need for fairer rules for organic production and marketing, create an organic vegetable marketing board, agency or commission, and set minimum prices that reflected the real cost of production. In terms of willingness to participate in other marketing formats, some alternative producers already work cooperatively in a de facto marketing cooperative.

**BCVMC**

Factors that affect marketing success for producers in the Lower Mainland are limited market opportunities mainly provided by small, regional operations, the segmented nature of producer marketing, and most importantly the lack of a successful go-to-market approach by producers. Biosecurity issues are food safety issues and to deal with them is just a cost of doing business. Viable marketing opportunities exist for smaller producers that emphasize familiarity of product, diversity and connection with product, and producer connection with
rural lands. The mainstream marketplace has a great deal of potential if producers can figure out how to enter it. Increasing demands regarding food safety where there is a need for training, infrastructure and accountability measures may be significant challenges for producers to enter into local, mainstream marketing channels. The processing of vegetables in the Lower Mainland has been declining as a result of globalization, but there may be niche-processing opportunities for smaller retail chains where scale and demand are manageable. Factors that determine a fair price for the producer include access to high quality market information, development and engagement of appropriate marketing and business planning, access and participation to a dependable and quality supply base for volume, and development of a brand that evokes an image and reputation that demands, acquires and maintains buyer loyalty.

Food waste

The purpose of the questions regarding food waste was to explore the willingness of the local food market participants to engage in recycling food waste produced by their respective business operations. Recycling food waste would conceivably be an important component of local food self-reliance, where cycling nutrients back into local agriculture systems would help maintain soil fertility. Strengthened and, therefore, closer business relationships between local producers and buyers could theoretically divert large amounts of vegetable and fruit organic matter away from landfills to local farmland. Therefore, it would be educational to understand the willingness, or lack thereof, of buyers to recycle, and producers to accept, food waste.

Conventional buyers said they currently lack the capacity or knowledge to process or enlist the services of a commercial composter. Their potential to participate in recycling their food waste by giving it to a producer was affected by lack of adequate space for storage, concerns for food safety and sanitation issues, and that the option be practical and easily accessible.

Alternative buyers currently employ several methods of food waste management arranged in an order of priority depending on the edible state of the produce. Many buyers compost by traditional methods or through a regional commercial composter. Their potential to enlist a producer to take away their food waste was similar to their conventional counterparts, with
the addition of needing a strong, direct relationship and the need to be ensured there was a positive environmental impact as a result of participating.

Conventional producers typically dealt with their food waste by incorporating it into the soil, feed it to cattle or hogs, or channeling gradable produce to processing, and composting. To accept food waste from a buyer would be a difficult proposition for fear of introducing disease into their farm. In addition, they did not want the cost burden of constructing the necessary composting infrastructure.

Alternative producers typically had more than one channel for food waste, with composting being the most cited method. As with their conventional counterparts, they either incorporated into the soil or fed to livestock unsold produce. To accept food waste from their buyers, the food waste would have to be organic and originated from their farm. Otherwise, none of the alternative producers would accept food waste for fear of introducing disease organisms and putting at risk their organic certification. Like their conventional counterparts, they did not want the cost burden of constructing the necessary composting infrastructure.

**Identified Local Market Barriers and Opportunities in the Lower Mainland**

The current structural and functional reality witnessed within mainstream food and agriculture systems, is a manifestation of values based on the tenets of economic efficiency, or the appearance thereof, to justify economic policies that facilitate economic power over the ways and means of food production by multinational corporations. The ecological and natural resource pressures discussed in the previous four subsections are also manifestations of an imposition of values based on the very same economic efficiency model. These pressures and vulnerabilities have local and global dimensions, such that their consequences and outcomes are inequitably distributed, impacting some regions’ social, ecological and economic systems of the world more than other regions. As a consequence, the entire globalised food and agriculture system, as it is currently structured to provide access to cheap food for developed countries, is collectively vulnerable and, therefore, increasingly untenable as localised or regional tensions are realised. However, another reality is possible and increasingly probable as social, economic and environmental pressures have more profound impacts on global food and agriculture systems.
Envisioning, adopting and engaging in another reality should be oppositional to the political economic structures that define the current arrangement of global food production and distribution, a structure by which we predominantly depend to feed ourselves. This other reality would be a food initiative that creates an alternative system of food production that is economically viable and environmentally sustainable and socially just (Allen, et al. 2003). Rather than being defined by a contorted derivation of economic efficiency within the context of a global neo-liberal market economy, it would instead be defined within the tenets of biological efficiency. Biological efficiency is a considerably different (i.e., oppositional) concept where values implicit and explicit in economic policy would correspond to natural limits or constraints on production and absorption capacities/services of the environmental resource(s) in question. In the case of food and agricultural production, the natural resources in question are the biophysical resources of land, water, flora and fauna, climate, and energy. In addition, securing and realizing the optimal potential for self-reliance in food and agriculture production would be one such manifested value that corresponds to the tenets of biological efficiency.

Important to creating and maintaining an alternative, diversified food and agriculture system, such as that under a commitment to increasing self-reliance, rests on the recognition of different forms of agency (i.e. capacity to intervene and create meaningful change) located within the spaces provided by the unsustainable and unjust nature of the global food and agriculture system. Thus, meaningful change will occur from “models of emerging alternatives that can help re-localize production/consumption relationships in the food system in equitable ways…in relationships that are personalized and sustainable, and embedded in place and community” (Hendrickson and Heffernan 2002). A region or community (i.e., a locality) seeking to acquire, retain or regain a level of self-reliance in food and agricultural production, would adopt emerging food production, purchasing and consumption alternatives that would consequently redefine its market relationship with the global food system. This redefinition of market relationships could be described as a process of balancing local and global market sourcing for food and agriculture products. Each region or community is likely differentially capable of capturing a proportion of its outsourced food market being a function of its created and accessible productive capacity. Productive capacity is the whole of the natural, human, cultural, financial and organizational resources available that can be coordinated to engage different forms of agency that moves a personalized, sustainable agenda forward.
In this study, cases for producers and buyers were examined to explore, from the context of their local market relationships, the potential for greater self-reliance in food and agriculture production in the Lower Mainland. Several issues in the form of market barriers and market opportunities stood out from amongst the findings. The issues drawn from the findings that stood out in the buyers’, producers’ cases are represented in Tables 6.1 and 6.2, respectively. In addition, market barriers and opportunities drawn from the interview with BCVMC are represented in Table 6.3. At least one market opportunity is suggested for each market barrier in the aforementioned tables. Relevant to this discussion on what may balance look like, the market barriers may be considered representative of issues, for both conventional and alternative stakeholders, as emergent from the pervasive logic of economic efficiency of the global food and agriculture market system. As such, they are impediments to realizing the potential of local food security. Alternatively, market barriers reveal the spaces where meaningful change can occur. They indicate oppositional food and agriculture initiatives in the form of market opportunities that can advance local self-reliance through coordinated agency, to create an alternative system of food production that is economically viable and environmentally sustainable. What balance may look like in the Lower Mainland is explored in the next sections that follow as a function of an engagement of agency within the context of market opportunities.

**Table 6.1  Buyers’ market barriers and opportunities**

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<thead>
<tr>
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<th>Conventional Buyers</th>
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<th>Alternative Buyers</th>
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<td><strong>Market Barriers</strong></td>
<td><strong>Market Opportunities</strong></td>
<td><strong>Market Barriers</strong></td>
<td><strong>Market Opportunities</strong></td>
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<tr>
<td>Dependence on Just-In-Time market system, repercussions or risk considered part of the cost of doing business (creates a local market disadvantage)</td>
<td>Distributor/wholesaler/processor access to sophisticated local market infrastructure with adequate operational capacity for consistent quality and timely delivery; develop product diversity and volume</td>
<td>Dependence on Just-In-Time market system</td>
<td>Distributor/wholesaler/processor access to sophisticated local market infrastructure with adequate operational capacity for consistent quality and timely delivery; develop product diversity and volume</td>
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<tr>
<td>Streamlined sourcing procedures (creates a market advantage)</td>
<td>Lack of streamlined sourcing procedures</td>
<td>Distributor/wholesaler/processor access to dedicated broker, single-selling/buying desk or marketing agency; develop product diversity for import replacement</td>
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<tr>
<td>Reliance on pre-processed products</td>
<td>Relative lack of pre-processed product volume available for consistent / persistence local market presence</td>
<td>Processor/wholesaler access to dedicated broker, single selling/buying desk or marketing agency; small and medium food enterprise</td>
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<td>Conventional Buyers</td>
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<td><strong>Market Barriers</strong></td>
<td><strong>Market Opportunities</strong></td>
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<tr>
<td>Favourable terms of tendering and capacity to meet contractual obligations; collective and coordinated ordering streamlines delivery process and reduces costs through volume purchasing</td>
<td>Difficulty consistently / reliably meeting terms of tendering for quantity, price point, and volume</td>
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<td>Distributor/wholesaler/processor access to sophisticated local market infrastructure with adequate operational capacity for consistent quality and timely delivery; develop product diversity for import replacement; small-food enterprise development for value-added</td>
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<tr>
<td><strong>Market Opportunities</strong></td>
<td><strong>Market Barriers</strong></td>
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<tr>
<td>Price-sensitivity and issue for buyers' customers</td>
<td>Quality valued over price; create brand; sophisticated marketing program specifying the important components of quality</td>
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<tr>
<td>Price-sensitivity less of an issue for buyers; Lack of sophisticated, ubiquitous, comprehensive marketing tools and processes</td>
<td>Quality valued over price; create brand; create sophisticated marketing program specifying the important components of quality</td>
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<td>Less direct market transactions and personal relationships with supply-chain representatives</td>
<td>Create value for direct knowledge that results in direct and indirect economic, social and environmental incentives</td>
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<tr>
<td>Direct market transactions and personal relationships with supply-chain representatives but lacks sophistication and ubiquitous, comprehensive marketing processes</td>
<td>Further develop direct market transactions and personal relationships with supply-chain representatives, embedding value-added and creating a viable, ubiquitous local brand</td>
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<tr>
<td>Less direct but long-term business relationships, mutually beneficial, and built on binding agreements</td>
<td>Create value for having direct knowledge that results in direct and indirect economic, social and environmental incentives</td>
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<tr>
<td>Direct but long-term business relationships, mutually beneficial, and built on binding agreements, but lacks sophistication and ubiquitous, comprehensive marketing processes</td>
<td>Develop further valuing direct long-term business relationships mutually beneficial and built on trust and rapport embedding value-added and creating a viable local brand</td>
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<tr>
<td>Producers growing mostly non-organic but practicing other forms of conservation/sustainable agriculture</td>
<td>Increase proportion of product grown in ways that embed value-added and create local brand</td>
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<tr>
<td>Producers growing predominantly organic but lack access to sophisticated, ubiquitous, and comprehensive marketing tools and processes</td>
<td>Producers growing organic and other forms of ecologically/regenerative oriented agriculture embedding value-added and creating a viable local brand; collectively and cooperatively invest to meet necessary regulatory measures</td>
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<td>Food safety guidelines demand accountability and traceability - resource demands of which are considered part of the cost of doing business</td>
<td>Embedded value: accountability and transparency can be inherent: includes direct knowledge (identity) of producer, producer visibility, proximity and comparatively limited distribution, and environmental sustainability; collectively and cooperatively invest to meet necessary regulatory measures</td>
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<tr>
<td>Food safety guidelines demanding costly accountability and traceability potentially excluding product from local market</td>
<td>Embedded value: accountability and transparency can be inherent: includes direct knowledge (identity) of producer, producer visibility, proximity and comparatively limited distribution, and environmental sustainability; collectively and cooperatively invest to meet necessary regulatory measures</td>
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<tr>
<td>Relative lack of direct knowledge and communication with producers for available product</td>
<td>Create value for direct knowledge that results in direct and indirect economic, social and environmental incentives</td>
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<tr>
<td>Direct knowledge and communication with producers for available product, but limited to a small network of people who share similar values and ethics for environmental, social and economic sustainability</td>
<td>Incentives to maintain rewarding production practices may occur by expanding network(s) of buyers that value direct knowledge and communication with producers for available, quality product</td>
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<td>Market Barriers</td>
<td>Conventional Buyers</td>
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<td>Market Barriers</td>
<td>Market Opportunities</td>
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<tr>
<td>Lack of dedicated broker or single buying/selling desk</td>
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<td>Create single buying/selling desk for specialty product as an agency within BCVMC</td>
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<tr>
<td>Increasing production capacity not possible beyond current management resources</td>
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<td>Facilitated by management of cooperative marketing arrangements; apprenticeship programs</td>
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<tr>
<td>Lack of access to full-time, permanent farmers' or public market</td>
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<td>Create a dedicated municipal planning group to consult/lobby/inform local municipalities and the farming communities to facilitate development of public/farmers' markets; increase on-farm retail opportunities including community supported agr.</td>
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<td>Well organized marketing arrangements in place</td>
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<td>Organized collective marketing arrangements highly limited</td>
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<tr>
<td>Limited processing capacity exists in Lower Mainland, oriented to just a few major commodities</td>
<td>Create diversity of medium-scale and small-scale processing facilities based on cooperative management models that focus on export replacement products</td>
<td>Create diversity of cooperatively managed, small-scale processing facilities; create same, easily accessible, dedicated social entrepreneurship support facilities and services in Lower Mainland</td>
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<td>Land stewardship goals and regulatory requirements can occur</td>
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<td>Collaborate with organizations dedicated to wildlife habitat preservation; pay producers for land stewardship services; producers compensated by higher margins for more sustainable/ regenerative production</td>
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<td>Significant capacity to enter mainstream marketplace with consistent volume, delivery and sufficient duration</td>
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<td>Cooperative marketing arrangements; single selling/buying desk or specialty agency; increased revenue an incentive to increase production within capacity</td>
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<tr>
<td>Lack of sufficient access to producer and product information</td>
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<td>Service provided by cooperative marketing arrangements; single selling/buying desk or specialty agency</td>
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<tr>
<td>Relatively limited diversity of produce; production oriented toward large scale processing and export markets</td>
<td>Service provided through management of cooperative marketing arrangements and specialty agency of BCVMC: focused on product quality awareness; agriculture contribution to local economy; awareness of true costs of production; Large volume of produce produced</td>
<td>Comparatively limited volume of produce available; oriented toward local markets but also export</td>
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<td>High diversity of produce</td>
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### Table 6.3 BCVMC producer market barriers and opportunities

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<tr>
<th>Market Barriers</th>
<th>Conventional Buyers</th>
<th>Alternative Buyers</th>
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<tr>
<td>Lack of intra-diversity and product variety</td>
<td>Break down quota for specialty items; develop new marketing programs for non-regulated produce</td>
<td>Large farm development</td>
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<tr>
<td>Lack of fair rules for organic production and marketing</td>
<td>Develop new marketing programs for non-regulated produce; breaking down quota for specialty items</td>
<td>Encourage small farm development</td>
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<td>Lack of access to high quality market information</td>
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<td>Lack of a successful go-to-market approach by producers</td>
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<td>Increasing demands for food safety may pose significant challenges for producers to enter into local, mainstream marketing channels</td>
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<tr>
<td>Significantly decline of vegetable processing facilities (including cold storage) in Lower Mainland due to globalisation</td>
<td>Create niche processing opportunities for smaller retail chains where scale and demand are manageable</td>
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CHAPTER 7: RECOMMENDATIONS, CONCLUSION AND FUTURE RESEARCH

From an agroecosystems perspective, relocalization of the horticultural supply chain in the Lower Mainland considers important the scale of a local/regional food culture-economy operating within relevant biophysical resource limits, while reducing and optimizing energy inputs and unusable waste. Thus, forms of coordinated and collaborative agency function within an integrated food and agriculture system that support socio-economic integrity while being ecologically regenerative. Heasman and Lang (2006: 12), suggest that an ecological vision would provide a coherent strategy for building a food system based on local communities, on a healthy environment, on healthy people. Such a vision will require some fundamental changes in our dominant food culture, a food culture where we would have to live with ecosystem limits. Food and agriculture policy from central, regional and local governments is necessary for the support and development of an ecologically-driven and community-based food system and to minimize or eliminate the impact of market barriers in the local and regional food and agriculture sectors. Key to re-localization and, therefore, local food security is the transformation of local-global market barriers in the horticultural supply chain system into successful local market opportunities.

Given the findings of this study, the following section highlights the emergent recommendations that could inform deliberations over food policy by the Vancouver Food Policy Council (VCFP), as well as by other levels of government and institutions. Local or regional policy responses that emphasize taking advantage of local market opportunities in the Lower Mainland food industry and horticultural sectors were laid out in Chapter 6 (Identified Local Market Barriers and Opportunities in the Lower Mainland). Here, market opportunities that were derived from stakeholder responses are organized by meta-category(ies). These categories were distinguished by the different forms of organizational or institutional response(s) necessary to operationalize market opportunities for the benefit of stakeholder network(s) that contribute to local self-reliance in agricultural capacity for horticultural products, as well as their distribution, delivery and access to local market economies.
Recommendations Informing Re-Localization

Market opportunities assessed from the viewpoints of the buyers, producers and the BCVMC were categorized under five major headings: market sophistication and go-to-market approach, value chain management, community economic development, cooperative economic development, and regional food system planning. From a systems perspective, these categories facilitate identification and discussion of market opportunities and their relationships, they are neither separate nor do they operate in isolation from one another. To illustrate the categorical interdependence or overlap, some market opportunities can be found in more than one category. The reader will notice in the following sections that I elected to combine the marketing opportunities from alternative and conventional stakeholders. My rationale for this is that attaining a judicious level of regional self-reliance will necessarily be a collective endeavor of the entire local horticultural production and distribution network, and not just one sector, actor, organization or a limited combination of several. In addition, without a collective endeavor, a balance between local and global food sourcing will be lopsided and not dissimilar to what currently exists. These market opportunities can be collectively referred to as economic development opportunities that respond to the long-distance food supply chain prevalent in the Lower Mainland.

Market Sophistication and Go-To-Market Approach: Reducing Market Uncertainty

Market sophistication and go-to-market approach are two different yet interdependent concepts. Market sophistication can be understood as the degree of organization, usability/quality, transmission, access and implementation of market knowledge and its infrastructure. This would include the quality of communication, coordination, and/or relationships between/among market actors. The go-to-market approach is the business orientation and capacity to respond to market demands, and internal processes allow a ubiquitous presence in the marketplace generally, and a marketing channel more specifically. The responses from the stakeholders interviewed suggested market opportunities leading to the following recommendations to inform public policy development that facilitates re-localization. The following represents the collective market opportunities for buyers (10 point Arial font), producers (italicized font), and the BCVMC (bolded font).
- Provide distributor/wholesaler/processor access to sophisticated local market infrastructure for adequate operational capacity, consistent quality and timely delivery (i.e. logistics)
- Provide processor/wholesaler access to a broker, selling/buying desk or marketing agency
- Develop product diversity and volume for retail and wholesale
- Facilitate small/medium food enterprise development for value-added/import replacement
- Streamline sourcing procedures
- Develop well organized marketing arrangements
- Develop significant capacity to enter mainstream marketplace with consistent volume, delivery and sufficient duration
- Increase on-farm retail opportunities including community supported agriculture
- Develop new marketing program for non-regulated produce
- Develop and engage appropriate marketing and business planning
- Break down quota for specialty market items
- Promote consumer/buyer familiarity with product diversity, the producer, and rural lands
- Develop brand to evoke image, reputation and demand buyer loyalty
- Facilitate access and participation with dependable, quality supply base for volume

How these market opportunities translate into increased self-reliance within the local horticultural produce supply chain and marketplace will depend partly on replicating the convenience and product offerings that people have come to expect. According to Verhaegen and Van Huylbroeck (2001), the transaction costs involved from switching from common/conventional to innovative/alternative marketing channels will be accounted and compensated for by higher revenues due to higher prices, higher product turnover and by reduced uncertainty. Reducing uncertainty and, therefore, risk occurs as the structure and function of the local food and agriculture market system becomes more organized, informed and responsive to local market demand. Greater market sophistication means producers must shift from being mass marketers of generic commodities to being cogently entrepreneurial, and better capitalize on their value-added, competitive advantage for variety, freshness, proximity, visibility and accountability. Greater market sophistication means that businesses within the food distribution network ally with one-another to better compete with highly consolidated markets.

By reducing uncertainty and risk for all local market network stakeholders to participate, there is a corresponding increase in local market confidence, which is a function of intelligent market sophistication and go-to-market approach (i.e., organized, informed and responsive). Collectively and intelligently accepting to take on risk in itself reduces uncertainty. However, to expect food businesses to take on additional risk, a prudent and evidentiary level of investment in local market networking infrastructure – one that mollifies disconnections of all stakeholders and instils confidence and trust – must first be established.
Value-Chain/Supply-Chain Management: Coordination, Embedding Value and Creating Brand

An analysis of Vancouver’s food system (Barbolet, et al. 2005), indicated that business relationships and market information links between ‘market actors’ had eroded and become fragmented, imposing further challenges and costs onto producers who were facing tight margins in the marketplace (Mark 2007). In addition, B.C.’s current support for farming support programs is only one quarter of any other province in Canada. B.C. currently spends only five per cent of provincial agricultural GDP on agricultural promotion where all other provinces spend 15 per cent. Given that the Buy B.C. brand already has millions of dollars invested in consumer loyalty to a BC brand, and that 75 percent of consumers recognize the Buy B.C. logo, it may make a great deal of sense to reinstate the program with full provincial funding (B.C. NDP 2008).

As a result of food and agriculture industry consolidation and the impact of globalization, the interviews indicated there were several significant local market gaps that need to be addressed for an effective local market system to function properly: insufficient farming and processing labour, lack of skills development and training, lack of regional manufacturing and local distribution infrastructure, lack of merchandising and marketing strategies for small and medium scale food product enterprises, branding of local food and products, and a lack of sufficient technical assistance for business planning for food and agriculture initiatives. Further, buyers and producers clearly indicated several significant challenges to regional food supply: lack of awareness of local food products, contribution of agriculture to regional economies, and food production issues; local foods and products unavailable through major food avenues; inconsistent presentation supply, and quality; first, second and third party quality assurances; it is perceived to be expensive; lack of product information and product development support services. The following represents responses from stakeholders suggesting the following recommendations to inform public policy development that facilitates re-localization:

- Develop processor/wholesaler access to dedicated broker, single selling/buying desk or marketing agency
- Develop a collective and coordinated ordering process that streamlines delivery and reduces individual participant costs through volume purchasing
- Create embedded value: direct experience with and knowledge (identity) of producer, producer visibility, quality, proximity and comparatively limited distribution that offers accountability and transparency, and potential for sustainability
Increase proportion of product grown in ways that add value and create local brand
Develop favourable terms of tendering with local suppliers to meet contractual obligations
Facilitate small/medium food enterprise development for value-added/import replacement
Develop direct market transaction opportunities and personal relationships with supply-chain participants, embedding value-added and creating a viable, ubiquitous brand
Create sophisticated marketing program specifying the important components of quality
Collectively and cooperatively invest in infrastructure to meet necessary regulatory measures
Create single buying/selling desk for specialty product as an agency within BCVMC
Increase on-farm retail opportunities including community supported agriculture
Facilitate access to timely, accurate market information
Develop accountability measures throughout the industry

Under a re-localized food and agriculture scenario, there is recognition of, and market organization around, drivers of regional food consumption such as human health and nutrition, produce freshness, environmental health, origin, experience of taste, knowledge of production, and direct and indirect support for community businesses. The market barriers identified in this study suggest the need for market opportunities that build and maintain effective or productive business relationships, that implement effective communication strategies among a broad variety of market actors, creates and protects value in local products, identifies with its multicultural and broad socioeconomic customer base, and effectively responds to competitive forces from outside the region. In other words, there is an extraordinary need for better regional/local value chain management.

Value chains link the concept of practical cooperation between a wide range of partners with a focused goal of meeting market demand and generating the largest possible margin for the participants along the chain (Mark 2007). Activities that take place in a value chain include those that are critical and add value to the end product (i.e., value adding), and those that are necessary for the chain’s operation (i.e., value enabling). For businesses that work with customers, producers and suppliers, value chains can reduce exposure to risk (i.e., spread risk and rewards across a range of links in the food chain), provide potential for long-term local market planning, allow the local food and agriculture industry to embed value strategically within the chain (e.g., knowledge of customers’ needs, identification of customers’ perception of product, understanding of product in the marketplace, and ability to

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82 Value chains are formed in response to consumer demand to meet a specific market opportunity and benefit all parties. They are a mechanism that allows companies to more effectively respond to market drivers by aligning their operation to maximize efficiency and effectiveness in relation to an identified market opportunity and drive out unnecessary costs. The aim is to increase the value that consumers perceive a product to offer (Gooch 2006).
acknowledge partners’ needs), improve local competitiveness in a globalized market system, capture greater value from local market initiatives (eg., quality assurance certification), reduced production and distribution costs, increase returns, and provide regionally unique market driven opportunities to invest, innovate and adapt food businesses for specialty, value added foods (Gooch 2006).

Community Economic Development – Building Local Food Network

The Centre for Sustainable Community Development (CSCD) 2007) identified similar local market barriers, as did this study. This study identified a strong focus on the export market such that the amount of produce available for local consumption is insufficient for both fresh and processed local products. Urbanization, aesthetic pressures and farm fragmentation also affect production capacity. In addition, the lack of supportive and affordable infrastructure for storing, transporting and processing, also outcomes of an emphasis on export/global commodity markets and developed to exploit large economies of scale, constitute local market barriers. Though not identified in this study but in CSCD (2007: 6), other barriers to market capacity may be a lack of training and skills development, cost of acquiring additional farmland and an inadequate labour supply. In consideration of the mentioned market barriers, the following represents responses from stakeholders suggesting the following recommendations to inform public policy development that facilitates re-localization:

- Distributor/wholesaler/ processor access to sophisticated local market infrastructure with adequate operational capacity for consistent quality and timely delivery
- Develop incentives to maintain rewarding production practices may occur by expanding network(s) of buyers that value direct knowledge and communication with producers for available, quality product
- Increase proportion of product grown in ways that embed value-added and create local brand
- Create value for having direct knowledge that results in direct and indirect economic, social and environmental incentives
- Small-food enterprise development for value-added
- Develop product diversity for import replacement
- Create pre-processed products
- Producers growing organic and other forms of ecologically/ regenerative oriented agriculture embedding value-added and creating a viable local brand
- Create same, easily accessible, dedicated social entrepreneurship support facilities and services in Lower Mainland
- Develop capacity to enter mainstream marketplace with consistent volume, delivery and sufficient duration
- Create facilitated access to timely and accurate marketplace price information
- Create well-organized marketing arrangements in place
- Create diversity of cooperatively managed, small-scale processing facilities
- Create single buying/selling desk for specialty product as an agency within BCVMC
- Develop and engage appropriate marketing and business planning: facilitate access and participation to dependable, quality supply base for volume
- Create niche processing opportunities for smaller retail chains where scale and demand are manageable
- Promote consumer and buyer familiarity of product diversity, producer, and rural lands
- Develop brand to evoke image and reputation demanding buyer loyalty

Significantly, this study identified indications of a lack of overall coordination and networking within the local food and agriculture sectors. At the market interface between buyers and producers there is a lack of consistent identification and marketing, and reliable information about local foods and agricultural products that would allow familiarity with what is available, in season when and how to access local products, and market pricing. Under the current scenario food wholesale, retail and service businesses have difficulty, relative to the available conventional marketing and information infrastructure, making informed decisions to adopt, let alone expand their use of local market products. An expanded and reliable local market communication infrastructure, may result in the prevalence or ubiquity of local produce in the marketplace that emphasizes quality and nutrition to overcome economic efficiency-induced consumer expectations for low-cost produce that is exotic (i.e., imported), uniform in size, colour, and ripeness.

In addition to a lack of coordination and networking within the local food and agriculture sectors, other aspects of local marketing identified in this study that hinder development of the local food system are the perceived and actual narrow scope of BC Vegetable Marketing Commission (BCVMC), a lack of government support for a regional food system that would allow small-scale producers to scale-up to commercial viability, and lack of access to merchandising, marketing and other technical services. Lastly, as suggested in this study and confirmed by Milne (2007), the supply management system in BC creates legal barriers for local food production and distribution because small-scale, local producers cannot afford to obtain quotas to produce their goods, particularly when competing with large corporate producers. Mark (2007) states that food processing technical assistance was “hollowed out” in the 1980s and those local distributors were eventually “bought out” by multinational companies to increase economies of scale. As a result most communities are without food processing facilities, co-packing facilities, access to capital, warehousing, cold storage and freezer capacity that would facilitate production scale-up.
A viable response to the multitude of local market barriers may be the development of sophisticated interventions in the local food economy. CSCD (2007: 7-22) identified the need for local market actors such as a processing kitchen and training centre; broker and marketing network; warehousing and distribution system; education, resource and policy centre; and a buy local retail store. Mark, et al. (2006), Mark (2007), Moreland and Mark (2006) and Barbolet, et al. (2005) support social enterprise interventions in the local food economy as a way for local entrepreneurs to develop new food products and food businesses. According to Mark (2007), social enterprises, through aligned community groups, use market means to meet social and environmental goals by internalizing costs that have been traditionally externalized. Social enterprises can be a transitional strategy that functions to bring together local actors, from producers through to consumers, as well as non-profit and community organizations, to address issues of food system sustainability and security. Heasman (2007: unpublished) has shown that community development based alternative food networks are emerging, at the same time as development of short food supply chains based upon a business case which aims for commercial viability with ethical small and medium sized enterprises. Thus, there is a need for community economic development in the form of a local food network that advances collaboration, development of a common understanding, and development of an information and research centre that focuses the effort of many organizations.

Canadian examples of community food development centres that could be modeled locally include:

- Niagara Presents, of the Niagara Women’s Enterprise Centre and through the Niagara Peninsula Homes Community Resources Centre;
- Toronto Food Share, developing a broad-based strategy promoting good nutrition and direct farmer links, and partnering with the Food Incubator Program funded by the Toronto Economic Development Office;
- Equiterre, developing and extensive community shared agriculture program; Coop Atlantic, a wholesale cooperative dedicated to selling only local foods, and serving 128 member cooperatives and manufacturing facilities and 110 stores in the Atlantic region;
- CHEP, Child Hunger and Education Program in Saskatoon, venturing into development of community food businesses including cooperative grocery stores that feature local foods, as well as the development of an enterprise centre; and,
- CR FAIR, the Capital Region Food and Agriculture Initiatives Roundtable in Victoria, BC, that promotes regional food security, carries out research and public education activities, and fosters program development and “buy local” campaigns.

Perhaps the most intriguing example in Canada for facilitating the scaling-up of collaborative, local supply chain relationships is Local Flavour Plus (LFP) in Toronto, a third-party certifying body that works to incrementally raise standards of local, sustainably grown
products. Using a collaborative and reward-based, flexible point system model of standards and verification, producers and corporations can enter into progressively more confident, sustainable and stable business relationships over time (Friedmann 2007). Under LFP, local refers to the whole supply chain while also encouraging regional links in which its collaborative practices extend throughout the entire sector, including large transnational corporations and institutions (Local Flavour Plus, 2006: 1). As an enabler of constructive market linkages, LFP provides marketing support to producers who otherwise could not afford it on their own, while at the same time educating the spectrum of local buyers about sustainable agriculture and open markets for sustainable farming.

However, to proceed in the Lower Mainland, social enterprises need the support of community forms of investment and finance to build local infrastructure. Perhaps a near mirror image of the current local market condition, most social enterprise initiatives that have emerged in the Lower Mainland suffer from not only a lack of supportive infrastructure and access to finance, but inadequate technical assistance, lack of effective communication networks, and access and a non-existent policy framework that may, as a result, beget organizational fragmentation rather than local food and agriculture development clusters.

**Cooperative Business Strategies**

Cooperatives established by local food and agriculture entrepreneurs can be considered another form of intervention for the local food economy. Though not separate, they are distinct elements of community economic development and can take the form of social enterprise initiatives. Within the context of this study they are another form of response to the outcomes (i.e., barriers) that are, at least in part, a result of the dominant globalised food and agriculture system. The following represents the collective market opportunities derived from the barriers identified and presented in the previous section, and should inform public policy development that facilitates re-localization:

- Collectively and cooperatively invest to meet necessary regulatory measures
- Create diversity of medium-scale and small-scale processing facilities based on cooperative management models that focus on export replacement products
- Create same, easily accessible, dedicated social entrepreneurship support facilities and services in Lower Mainland
- Create service provided through management of cooperative marketing arrangements and specialty agency of BCVMC: focused on product quality awareness; agriculture contribution to local economy
Cooperatives and their variations exist locally and regionally at the producer, buyer and consumer levels. However, from the list of market opportunities above it is clear this study identified more cooperative-like arrangements desired at the producer level than from the buyer and BCVMC participants. Nonetheless, a new generation of cooperatives is emerging, distinguished from previous forms of cooperatives by their organizational/structural and functional sophistication (e.g., manufacturing, value-adding, value-chain cooperatives). According to Verhaegen and Van Huylenbroeck (2001) cooperation decreases transaction costs and that collective initiatives enable [farmers] to enter the pathway of quality food production without investing excessive labour or capital. Cooperatives, or alliances as they are sometimes called – depending on their vertical or horizontal orientation – share a clear vision and common goals, possess the technical capabilities to create and maintain value, have a culture that supports cooperation and learning, are composed of compatible partners, proactively manage market relationships, and have the communication infrastructure and network connections to continually adjust to changing local and global market circumstances (Gooch 2006). Producers [and buyers] benefit from marketing cooperatives and alliances, that allow them to share marketing, transportation and distribution capacity, as well as providing them the wherewithal to link with institutions from which they may otherwise be excluded as a result of food industry consolidation (e.g., restaurants, caterers, school cafeterias and independent grocers).

There are many contemporary and historical cooperative models that can inform the process of cooperative development locally to taking advantage of the marketing opportunities noted in this section. Collectively, they approach food and food product development from a broad variety of circumstances and approaches. For the purpose of further study, North American and European examples of cooperative models that may be relevant or informative to Vancouver and the Lower Mainland include the following (Mark 2007: 21-23):

- Canadian: Organic Meadow Co-operative Inc., a cross-Canada model of organic farmers; Islands Good Food Business Network on Vancouver Island, building a value chain, multi-stakeholder/multiregional cooperative; Agri-Value Processing Business Incubator in Leduc,
Alberta, specialized and shared facilities for commercialization of new food products; Manitoba Food Development Centre, a Special Operating Agency of Manitoba Agriculture, Food and Rural Initiatives, provides contract research and development services for value-added agricultural products processing sector; and, the Saskatchewan Food Industry Development Centre, providing extensive understanding of markets and support mechanisms for technology and human resource development.

- United States: The Appalachian Centre for Economic Networks (ACEnet), provides specialty food business market and trend information, loan and venture funds, small business and financial planning assistance, food product information and training, use of food product incubator, links to industry experts, and links to specialty food businesses within a network of firms.

- European Union: Emilia Romagna is a region in central northern Italy that for the last 150 years has developed a network of 8,000 consumer, farmer and worker-driven cooperatives, claiming nearly 70 percent of the region’s population as coop members and generating 30-40 percent of the region’s gross domestic product. According to the Thompson (2003), it is a good example of successful institutional public/private-sector cooperation involving political, social and economic actors that create an environment conducive to enterprise development and innovation. It relies on an intensive networking process, involving private business networks and social and public networks, including academia…The agro-food sector is especially developed…with an annual turn-over of 44 billion Euros and quality products renowned throughout the world, the food industry is one of the driving forces of the region…The key operating mechanisms that have evolved in the Emilia Romagna region are: clustering, where cooperatives to derive the highest return on what they consider to be their competitive advantage; structure, of organizational, developmental and financial to improve development opportunities, access to financing, direct participation, planning, and communication among groups of cooperatives; solidarity, developing both formal and informal infrastructural support for achieving the goals of existing and new cooperatives; and, reciprocity, allowing each member or each cooperative to know that their investment or contribution will be valued and repaid…anticipating long-term relationships rather than singular conclusive transactions. Fonte (2006) describes Europe’s in-depth and long-standing relationships between local supply chains and the retail sector.

Regional Food System Planning

Interestingly, market opportunities identified under regional food system planning came predominantly from producer interviews. Though important components, food system planning would encompass far more than food production, buyer and producer access to farmers’ markets, and land and habitat stewardship. This became evident in the sophisticated responses below calling for a more comprehensive approach to planning. A comprehensive approach from the producer’s perspective would appear to include social, economic and ecological considerations and values at the municipal and regional levels.

- Create a dedicated municipal planning group to consult/lobby/inform local municipalities and the farming communities to facilitate development of public/farmers’ markets
- Increase on-farm retail opportunities including community supported agriculture
- Collaborate with organizations dedicated to wildlife habitat preservation
- Pay producers for land stewardship services
- Compensate producers with higher margins for more sustainable/ regenerative production
Encourage small farm development

According to Born, et al. (2006: 2-4), planning is a discipline that marks its distinctiveness by a strong claim to be comprehensive in scope and attentive to the spatial interconnections among important facets of community life. Yet among the basic necessities of life – air, food, shelter, and water – only food has been given short thrift by the planning community. The authors make a clear case for including food systems within the planning framework:

- The food system takes up significant urban and rural land in activities related to agriculture, industry, wholesale, retail and waste management
- Food is vital to public health, safety, and welfare of residents
- The food we eat consumes a considerable amount of energy resources to produce, process and transport
- Planners bring aptitudes and skills that are needed for building stronger local and regional food systems
- Our current food system exists in a global marketplace. Urban and rural areas across the country routinely experience market failure in the form of loss of competition and the food deserts despite community buying power
- Aside from traditional land use and related economic and environmental considerations, food systems also have implications for [national] security
- Food systems have implications for disaster planning and preparedness, as many cities have only a few days supply of food

Koc and Dahlberg (1999: 115) in their description of practical issues in promoting sustainable food systems at the local level, point out that local government needs to be “reconceptualised and reorganized in broad systems terms, not in terms of highly specialized functions. These broad systems would include such basic needs as food…and the need to think more clearly and comprehensively about how local food systems relate to other systems. Notwithstanding the importance and emergence of municipal food policy councils and municipal food charters in North America, comprehensive food planning efforts remain a rare phenomenon. Food policy councils are in an advantageous position within the municipal/regional governance and advisory framework to conduct or promote comprehensive policy and planning activities such as: farmland preservation; fostering sustainable agriculture practices; linking farms with school and institutional cafeterias; transportation planning; food enterprise/processor and food retail development; buy-local food programs; urban agriculture initiatives; and linking farms and gardens with food assistance programs.

Instructively, one of the most comprehensive food planning efforts comes from Southwestern England where, since 1998, links between local growers in local food outlets has been established by County Food Links. This government funded effort had helped
producers diversify their crops and farm processing facilities, set up farmers’ markets and boxed and delivery schemes, provided grants for new local food businesses, and connected local growers to shops, restaurants, schools, and government institutions (Halweil 2002: 52). In Canada, the Toronto Food Policy Council probably come closest to the County Food Links model with similar efforts toward local food business development – in collaboration with Toronto FoodShare Field to Table Centre, establishment of food distribution networks, and public/citizen access to local foods, markets and initiatives, including Local Flavours Plus.

The BC Association of Farmers’ Markets (BCAFM) noted in their ten-year business plan the lack of municipal food planning as a salient challenge to farmers’ markets survival in British Columbia. Specifically, “increasing overzealous regulation” and, more specifically “health regulations,” were the only challenges that market participants (producers, other market vendors and market organizers) identified as actual threats. While markets recognized the need to protect public health and safety, they often felt enforcement as being inappropriate, capricious and inconsistent between jurisdictions. As a response, the BCAFM will begin to conceptualize and implement a higher level of organizational and management sophistication, and seek to promote farmers’ markets not as “events,” but as permanent businesses that contribute to the development of their communities (BCAFM 2006: 12).

**Additional Policy Considerations**

The following is a list of policy development considerations the Vancouver Food Policy Council should consider and actively engage resources to further articulate into actual policy proposals:

- Facilitate and promote the development of cooperatives and social entrepreneurial activity as a component of community economic development
- Support, via the City’s participation in Metro Vancouver governance, the collaboration of food producers, processors and regional food distributors as a food value chain alignment and a viable and legitimate component of community economic development
- Support and favour access to local/regional food products in its municipal purchasing policy
- Support and facilitate the Vancouver School Board in promoting healthy eating habits that include fresh, locally grown produce
- Coordinate municipal cafeterias and contracted caterers to secure price policy favouring purchase of wholesome, locally grown foods
- Facilitate not-for-profit organizations/groups and businesses in the development of community food enterprise initiatives/centres
• Work constructively with food purchasers from publicly funded agencies, community organizations and private institutions to develop a buying strategy that could reduce individual transaction costs
• Commit, via the City’s participation in Metro Vancouver governance, to supporting small-scale organic agriculture would provide greater food security, more local business activities as well as stronger economies and communities
• Supporting financially and technically the efforts of community groups in food security to develop business links with producers
• Incorporate agriculture and food system elements into comprehensive, regional, and neighbourhood plans and strategies
• Bring to the fore a systematic planning focus, providing guidance and build support for community food planning
• Work constructively with other levels of government, including Metro Vancouver, to develop ways of preserving farmland at the urban fringe as well as allowing urban agriculture initiatives, including commercial organic gardens
• Educate and inform city staff how food systems planning relates to land use and other planning sectors such as economic development, transportation, environmental, health, social services, and energy planning

According to the findings of this study as they relate to market barriers and their respective market opportunities, the following list of policy recommendations is presented to the relevant ministries of the provincial government to consider and actively pursue. They might go a considerable distance to improving prospects of long-term food security, community economic development, agroecological diversity and, in the face of system vulnerabilities, advance the competitive advantage of all producers and greater self-reliance in food and agriculture production for the province of British Columbia:

• Establish permanent Agriculture Land Reserve boundaries
• Fully fund the Agricultural Land Commission’s mandate
• Provide financial and in-kind assistance to the development of a real-time, produce market information system accessed by both buyers and producers; includes real-time updates of inventory or various sources of local food supplies
• Develop and execute a strategy to recruit and retain new farmers
• Assist farmers who are willing to grow to meet the market demand with access to finance and technical assistance, product development, marketing, land stewardship compensation, and business planning
• Advocate and lobby for an expanded ‘new entrant’ quota for new/beginning growers
• Remove extra-ordinary regulations for small and medium sized food enterprises
• Reinstate agricultural extension, and soil and water conservation service programs across the province
• Provide and/or facilitate access to knowledge-intensive resources and skills development infrastructure/programming across the entire supply value chain
• Assist and encourage finance agencies to develop finance programs for innovative small- and medium-scale food and agriculture development
Conclusions

A rehabilitated and reinvigorated local/regional food value and supply chain has the potential to increase regional self-reliance by facilitating the balancing of the local-global food sourcing dynamic within the context of the system vulnerabilities presented in this study. This exploratory study examined, within the context of agroecological systems framework, forces that pose a challenge to local horticultural producers and buyers, as well as additional food-system vulnerabilities. These concurrent and synergistic forces and vulnerabilities increase the challenges for local horticultural producers and buyers, complicating local efforts to establish a secure food and farming scenario. However, complication of effort hardly constitutes preclusion of successful adaptation of workable and profitable alternatives. Thus, in this thesis a case has been made for the need of a policy or institutional response that enables the development of an economically viable local horticultural distribution and production system that can respond effectively to the failures of globalization and effects of global-regional vulnerabilities.

The market barriers discovered in this study revealed spaces where meaningful change could occur through coordinated mechanisms and capacity building, as well as where oppositional food and agriculture market opportunities could advance local self-reliance and food security in the Lower Mainland of British Columbia. Market barriers and opportunities identified in this study can be collectively referred to as economic development opportunities that have the potential to rehabilitate and reinvigorate local/regional horticultural supply and value chains. Importantly, and primarily, the findings of this study centred on the need for appropriately scaled production, distribution, processing, delivery logistics and infrastructure, as well as access and effective use of timely, reliable, and relevant horticultural supply-chain intelligence. In other words, there is need for coherent market sophistication that would allow the broad range of local buyers and producers to effectively communicate and coordinate at a level comparable to their corporate counterparts in the Lower Mainland. Lower Mainland and provincial policy considerations were suggested in the previous section for transcending the barriers identified by producers and buyers interviewed in this study, by focusing on establishing relevant local/regional horticulture supply chains. In terms of market sophistication and go-to-market approach, it is necessary to improve access to market information and implement local marketing infrastructure in order to respond effectively and profitably to local market demands, as well as establish a ubiquitous presence in the
marketplace broadly and respective marketing channels specifically. This means capitalizing on value-added products and value-enabling producers’ and buyers’ competitive advantage in combination with a negotiated food distribution and processing network/infrastructure. For both producers and buyers, overcoming local market barriers involves additional risk taking. However under a more sophisticated go-to-market approach, risk and uncertainty in building and investing in local market networking and infrastructure can be reduced as local market confidence and trust is established between producers and buyer, as well as with the general public.

There is an extraordinary need for strategic local supply-chain/value-chain management to effectively respond to global competitive forces from outside the Lower Mainland region. In order to take advantage of market opportunities producers and buyers must build and maintain productive business relationships that create, embed and protect value in local products that identify with the multicultural and broad socioeconomic consumer base in the Lower Mainland. Branding local/regional foods and agriculture would substantiate horticultural market legitimacy. Branding re-localization, or its marketable elements, should embrace regional and local identity and food system integrity, to beget brand and market loyalty, thereby increasing confidence and reducing investment risk among producers, buyers and consumers.

There is demand for community economic development in the form of a local horticultural network that embraces collaboration, collective investment in infrastructure, and provides accurate and timely marketing information. Public and private support is needed to allow small-scale producers to scale-up to commercial viability within the local context, and access merchandising, marketing and other technical services. Local public and private market actors include to-scale processing facilities; broker and marketing network; warehousing and distribution system; training, education, resource and policy centre; and buy local retail stores. Community economic development can take many forms but the social enterprise model was advanced as a way to intervene in the local food economy and for local entrepreneurs to develop new food products and businesses. Community development based food networks and alliances would use market means to meet social and environmental goals, but solid business case would need to be made to build local food supply-chain/value-chain infrastructure and collaboration among small and medium sized enterprises.
Cooperatives or alliances established by local food and agriculture entrepreneurs can be considered another form for intervention for the local food economy. Cooperative-like market arrangements in the Lower Mainland were more desired at the producer level that was more sophisticated in terms of manufacturing, value-adding and value-chain/supply-chain enabling. Participants in the markets would benefit from shared risk and benefit in marketing, transportation and distribution capacity, enabling them to establish local market linkages with a greater variety of food industry representatives. A new culture of shared vision and goals that allow appropriate technological integration and capabilities will help to enable enduring and adaptive value, infrastructure and network connections in a dynamic local market.

A comprehensive food system planning approach that includes social, economic and ecological considerations needs to be included within the urban/regional planning framework in the Vancouver and the Lower Mainland. Notwithstanding the importance and emergence of municipal food policy councils in North America, efforts toward comprehensive food planning are rare. The City of Vancouver, with its own food policy council based on the successful Toronto Food Policy Council and their collaborative framework, might do well to look to Count Food Links for greater perspective in comprehensive food planning. The Fraser Valley Regional District and Metro Vancouver and its Sustainable Region Initiative would also benefit.

**Key Recommendations and Priorities**

Above is a rather comprehensive listing of recommendations, possibly too broad for policy makers or advisors to discern the key priorities given the findings of the study. However, given the unique opportunity provided in the exploratory process with which this study was conducted, that being discovering a collective insight into market barriers and opportunities of alternative and conventional buyers and producers in the City of Vancouver and Lower Mainland, respectively, the most significant recommendations can be selected. Key policy priorities and recommendations identified below are those that, if undertaken, could set the economic and infrastructural conditions for many of the other recommendations cited earlier in the chapter to follow. These key recommendations were chosen based on balancing the need for expediency with the greatest impact.

Alternative and Conventional Buyers
1. Provide processor/wholesaler access to a broker, selling/buying desk or marketing agency
2. Provide distributor/wholesaler/processor access to sophisticated local market infrastructure in the City of Vancouver and regionally, that promotes greater operational capacity, consistent quality and timely delivery
3. Provide real-time, produce market information system accessed by both City of Vancouver buyers and producers, that includes an inventory of various sources of local food supplies
4. Provide access in the City of Vancouver and regionally to knowledge-intensive resources and skills development infrastructure across the entire supply value chain

Alternative and Conventional Producers
1. Create cooperative marketing arrangements for alternative and conventional producers based on successful cooperative management models
2. Develop significant capacity for alternative producers to enter local mainstream marketplace with consistent volume, delivery and sufficient duration

BCVMC
1. Develop and engage appropriate marketing and business planning: facilitate access and participation to dependable, quality supply base for volume
2. Create niche processing opportunities for smaller retail chains where scale and demand are manageable

Provincial Government
1. Establish permanent Agriculture Land Reserve boundaries
2. Facilitate and promote the development of cooperatives and social entrepreneurial activity as a component of community economic development
3. Make the Buy BC program more accessible for all producers: remove the associated fees

It is expected by this author that if the Vancouver Food Policy Council understands local food security and local food and agriculture as a complimentary system, then it should not be a significant stretch for the Council to be involved beyond municipal boundaries and in regional and provincial policy advocacy, where many of these recommendations lay.

Within a re-localized horticultural supply-chain, competitive benefits derived by market actors in the Lower Mainland would receive proprietary market information, have the ability to make and improve management decisions, and learn and develop new capabilities and capacities. Further, within a cooperative, collaborative and better-coordinated value chain, relationships based on trust and confidence develop as members’ needs, demands and drivers would be met. For the relatively small-scale producers in British Columbia’s Lower Mainland competitive advantage also means the opportunity to grow a large diversity of crops in a climate with high capability soils, suitable for local market needs and wants, and for a price inclusive of the real costs of production—an opportunity that could allow both
producers and buyers to maintain viable business relationships. Food and fuel price increases will continue to have an ever-greater impact on the economic logic of importing and exporting of horticultural products. In addition, labour here may become more competitive as production of horticultural products becomes less advantageous for exporting countries as global food prices increase.

Although a form of commodification, reclaiming an economic advantage and thoroughly instituting elements of market sophistication would effectively brand regional horticultural products and agriculture, broadly substantiating their market legitimacy. Branding creates opportunities for preferential treatment, authenticity, and loyalty as consumers within the local/regional food marketing channels broadly identify with it. Discovering a balance between local and global food sourcing through import replacement is a superficial and ineffective strategy. It is not enough to offer local foods and their production as simply an alternative for the sake of opposition to the conventional. Rather, balance would be an emergent quality of a competitive and thoroughly embedded local market position embracing regional and local identity begetting local market loyalty and preference.

Re-localization seeks to balance local-global food sourcing can legitimately reclaim competitive advantage to secure not just significant market share, but food security through self-reliance. A sustainable vision recognizes that, the cornerstone of any community’s independence relies upon a secure, homegrown source of both food and fibre. In the face of the main impediments to re-localization and the emerging challenges/vulnerabilities, if the Lower Mainland lost its producers and farmlands, Vancouver would be forced to be increasingly competitive for ever scarcer sources of horticultural products globally. The province’s farmland is a significant and irreplaceable natural, communal and economic asset for its food production. Vancouver’s food security, regardless of current land-use trends and food-system challenges, depends on the long-term preservation and integrity of remaining Lower Mainland farmland, with its unique horticultural production potential, as well as the economic viability of its producers and their relationships with regional buyer and consumers. By preserving the Lower Mainland agricultural land base, a significant capacity to provide food security will be maintained.

At the end of the day, however, food security may be determined by the literal and figurative marketing of values and solutions. A reasonable argument exists to challenge systemic
socioeconomic, cultural and personal choices that beget existing and future vulnerabilities and ask, within the global and local context, what constitutes an appropriate diet, i.e., one that respects the local sustainable capacity to feed ourselves, and allows others in the world to feed themselves appropriately, adequately, equitably, respectfully and locally.

Future Research

In an increasingly uncertain world dynamic of politics, energy, human rights, food safety, technology, land use, economy and environment, issues of food security have increasingly emerged as prominent and noteworthy. Given that healthy food is an irreducible element for human existence, and for structure and function of society, food security must be a primary consideration at the policy level for British Columbia, Canada, and globally. Faced with internal\(^\text{83}\) and external\(^\text{84}\) pressures, there is need for research, speculation, organizational and policy initiatives to enhance food security at all levels of society. These initiatives must be conceived of and acted upon within a whole system, interdisciplinary, cross-sectoral, collaborative framework that does not observe and value their impact on social, economic and ecological integrity, and consideration for equitable entitlement beyond one’s borders. Thus any call for future research must take these considerations into account.

The British Columbia Agricultural Land Reserve (ALR) has more or less successfully weathered through a 35-year period of growth, fracturing and transition since the adoption of the ALR Act in 1973. Though a significant historical accomplishment, the initial justification for the preservation of BC’s agricultural assets remains, but with further rationale to build on the ALR’s legacy. It is ironic that at a time when the integrity of the ALR is being challenged by increasingly powerful and influential forces, including influences and policies that emerged in part from its own success in protecting agricultural land and industry, that global-scale phenomenon demands that it be protected as never before. As global environmental, economic and socio-political uncertainties unfold, the value of the ALR as a natural agricultural resource will increase, as will the need to forego other, mutually exclusive, economic activity. Some of these uncertainties are, for example:

\(^{83}\) e.g., escalating health budgets; increase in chronic diseases; increase in malnutrition, obesity and diabetes; concerns regarding factory food and food safety; public concern regarding GMO and terminator seeds; and, increasing incidence of hunger.

\(^{84}\) e.g., peak oil, climate change, horticultural disease and pest transmission, and international trade policy issues.
• the increasingly ubiquitous and indisputable evidence of the human induced global climate change;
• numerous and broad-impact public health issues that have arisen regarding lapses in biosecurity measures at large-scale, industrial meat and vegetable production facilities;
• increasing evidence and widespread consequences of peak oil and the lack of viable substitutes for high-energy-dense petroleum;
• reallocation of water resources, from agriculture to residential use, in the San Joaquin Valley where most of B.C.’s and the U.S.’s wintertime vegetables originate;
• the vulnerability to local food supply and market system to a natural disaster here or elsewhere justify; and,
• increasingly untenable consequences of global agriculture cheap food policies force small-scale, subsistence producers elsewhere in the world off their productive lands and into a tenuous urban labour market, facilitating the persistence of global poverty

Rather than a call to research, the above list provides further justification, if not moral and ethical persuasion, to strengthen and institute into permanence B.C.’s ALR. British Columbia’s most productive farmland ought not be forced to compete with urban development prices, and the short-term needs of developers and local economies. The ALR Act acknowledged that the ALR boundaries would be finalized at some point in the future. Given the points of the above discussion and the results of this research, that future date is now. In terms of future research, it would be useful to determine how communities may comprehensively integrate population health issues with local environmental, urban and regional planning and—ideally—with food-security initiatives in British Columbia. In addition, research may be necessary to re-establish the Buy BC program as a provincially funded program to increase the profitability and market share of B.C. products – as it did each year throughout the 1990s, creating 20,000 farm-oriented jobs, creating a highly recognizable brand, and leveraging $3 to $4 million in private money from the agricultural industry – within the local and global context of significant food and agriculture system vulnerabilities.

Urban agriculture (UA)

For urban agriculture to succeed in Vancouver, all levels of government and civil society will need to accept urban and agricultural densification. Marketing research will play an important role in helping to understand the needs and opportunities of end user such as retail stores, restaurant, packing and/or processing, primary product gaps and understanding the role and impact of urban agriculture, particularly as the number of garden plots increases in Vancouver (CSCD 2007: 6). Future research should examine workable and whole-systems food policies for at provincial and municipal levels that address food production issues through a continuum scale of production and marketing in urban and peri-
urban areas. Also, it should be determined how best to implement these policies, for instance through provincial, metropolitan or regional departments of food that have a mandate to comprehensively plan and manage urban and peri-urban food systems.

Community Supported/Shared Agriculture (CSA)

One interview participant in this study (RDm) suggested that the growth and popularity of organic food home-delivery services and farmers’ markets might make the CSA concept irrelevant. In addition, as long as a cheap food and convenience mentality pervade in society this disparity may persist. Future research in the relevancy and potential viability of the CSA concept for the Lower Mainland in light of the existence of several home-delivery services would provide some useful insight for CSAs as a community economic development activity.

Barriers created by cost of and access to quota

As already noted in this study, the current supply management system creates barriers for the small-scale, local production and distribution of food in British Columbia. Regardless of product volume exemptions to the quota requirements for producers the exemption levels are likely too low to promote/enhance commercially viability. Thus production at exemption levels may contribute to producers’ inability to adequately produce for the local market. Producers intending to produce and distribute locally are usually small-scale, so the cost of quotas can be prohibitive. Considering that it is an offence to not comply with provincial marketing board regulations in British Columbia, research into increasing ‘new entrant’ quota for small-scale producers should be undertaken so they can access the market benefits afforded by the BCVMC.
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Appendix A: Metro Vancouver and Fraser Valley Regional District. Source: B.C. Stats 2001
Appendix B: B.C.’s ALR and ALC’s six designated regions. Source: B.C. ALC (2004a; 2005a)
Appendix C: Interview Questions for Buyers

Primary question (which the others elaborate): If given an equal opportunity to choose between purchasing your fruits and/or vegetables from one or more farmer(s)/producer(s) in the Lower Mainland and Okanagan, and from your current food service company/food supplier, which would you choose? What factors influence your purchasing decision process?

1. From where does the fresh fruits and vegetables you sell/process/serve come?
   a. How do they arrive to your place of business?
   b. How often do they arrive to your place of business?
   c. From where do your shipments originate?
   d. How soon after ordering do you receive shipment/delivery?
   e. Do you personally know the individual that supplies your produce?
      i. Yes:
         1. How did you come to know the person that supplies you with the produce you use or sell?
         2. Do you know the person that prepares or grows the produce your supplier provides you? Why or How?
         3. In what ways does personally knowing your supplier influence your purchasing decisions?
         4. In what ways does personally knowing your supplier influence your relationship with your customers?
      ii. No:
         1. In what ways could personally knowing your supplier influence your purchasing decisions?
         2. In what ways could personally knowing your supplier influence your relationship with your customers?

2. By what procedure(s) do you typically source your vegetables?
   a. Is this procedure established by official/standard policy?
      i. Yes:
         1. How did these purchasing policies become established?
         2. Do your purchasing policies include sourcing produce locally?
            a. Yes:
               i. What is this procedure?
               ii. Why does this procurement procedure exist?
               iii. Under what conditions could the proportion of local food product you purchase increase or decrease?
            b. No:
               i. Under what conditions could you source directly from producers in the Lower Mainland?
      ii. No:
         1. What guidelines do you use to source produce?
         2. Under what conditions would purchasing directly with local producers become an option for your business?

3. How do you dispose of the waste produce from your operations?
   a. Under what circumstances could you see yourself recycling your food waste if you were sourcing more directly with local producers?
Appendix D: Interview Questions for Producers:

Primary question: If given an equal opportunity to choose between producing your fruits and/or vegetables for one or more food buyer(s) in the City of Vancouver, and a food wholesaler/broker which would you choose? What factors influence this marketing decision?

1. What is your personal experience with marketing your produce/products?
   a. In a general sense who are your buyers?
   b. Why do you think your buyers purchase from you?
   c. Why have you chosen to sell to your buyers? (Market options)
   d. Do you market directly to independent buyers in the City of Vancouver?
      i. Yes:
         1. What opportunities to Vancouver’s markets do you exploit?
            a. How did you discover this/these market opportunity(ies)?
            b. What has this meant in terms of your economic viability?
            c. What has this meant in terms of operations management?
               i. Crop composition and diversity?
               ii. Operation scale?
               iii. Access to capital?
               iv. Operational capacity?
               v. Land stewardship?
               vi. Time/resource management (within a timeframe)?
      ii. No:
         1. What kinds of market barriers have you experienced?
            a. How do these barriers affect your operations management?
               i. Crop composition and diversity?
               ii. Operation scale?
               iii. Access to capital?
               iv. Operational capacity?
               v. Land stewardship?
               vi. Time/resource management (within a timeframe)?

2. Do you feel you are paid a fair price for your product(s)? Why or why not?
   a. What criteria do you use to determine what is a fair price to you?
   b. What criteria would you consider in deciding what is a fair local market price?
   c. What criteria should a buyer consider in deciding what is a fair market price?

3. What has been the role of the BC Vegetable Marketing Commission to your business?
   a. Does it encourage and assist you to be innovative and your business viable?
      i. To adapt your operations for, or help you engage in, niche markets?
      ii. Encourage or assist in product development?
      iii. Facilitate access to local markets?
   b. What would you like to see the Marketing Commission do for you that it is not?
   c. In what kind of alternative local marketing arrangements would you participate?
      i. Under what conditions would you sell to a marketing cooperative?

4. How do you dispose of the food “waste” from your operations? Why?
   Under what circumstances could you accept food waste from your buyers?
Appendix E: Suggested Interview Questions BCVMC

1. In your professional opinion, what are the most important factors that determine a producer’s success in marketing his/her fresh produce in the Lower Mainland (LM)? Do you think food safety and bioterrorism present barriers to produce trade and, therefore, BC’s food security?

CONFIDENTIAL

2. In your professional opinion, what potential economically viable marketing opportunities exist for BC vegetable producers in the Lower Mainland to market locally (i.e. in the LM) that could or should be exploited/developed but currently are not?

CONFIDENTIAL

3. In your professional opinion, what do you feel are the most significant issues/challenges facing vegetable producers in the LM with respect to developing/entering local market channels?

CONFIDENTIAL

4. In your professional opinion, what do you feel are the most significant factors that influence whether or not vegetable producers receive a fair price?
   a. Hypothetically, what factors should be considered that are not currently?
   b. Hypothetically, what factors should not be considered that are currently?
Appendix F: Mailout Letter of Invitation to Study Participants

[FACULTY OF AGRICULTURAL SCIENCES LETTERHEAD]

Thursday, February 26, 2009

Dear [potential research participant],

My name is Tony Brunetti, I am a Ph.D. Student of the Faculty of Agricultural Sciences at the University of British Columbia. I am conducting my dissertation research on sustainable local food systems in the Lower Mainland of British Columbia.

The goals of my research are to:

1. Identify and document producer and buyer access to the current market channels in the City of Vancouver, including the constraints, barriers and opportunities to an economically sustainable food system within the Metro Vancouver region and FVRD;

2. Identify what policies, practices and local conditions are relevant to producer viability and buyer access according to sustainability theory, and how do they compare to experiences from elsewhere; and

I am writing to request your collaboration with this important exploratory study. I would appreciate very much if you could make available to me relevant information and share your knowledge and opinions in responding to my questions. I will present to you a consent form indicating your willingness to collaborate in my research. The consent form will commit me to ensuring your anonymity if you so desire and your right to terminate participating in the interview process whenever you consider it necessary.

If you have any concern about any aspect of this research project, please do not hesitate in contacting my academic supervisor, Dr. Art Bomke, of the Faculty of Agriculture Sciences [tel. (604) 822.6534]. Thank you very much for your cooperation.

Best regards,

Dr. Art Bomke
Faculty of Agriculture Sciences
University of British Columbia
fert@interchange.ubc.ca

Anthony J. Brunetti, Ph.D. Student
Faculty of Agricultural Sciences
University of British Columbia
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Re-localizing Food Systems: Discovering a Balance Between Global and More-Local Food Sourcing

**Principal Investigator:**
Dr. Art Bomke  
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University of British Columbia  
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**Co-Investigator:**
Tony Brunetti  
Ph.D. Student  
Faculty of Agricultural Sciences  
University of British Columbia  
(604) 822.1422  
brunetti@interchange.ubc.ca

**Purpose:**
Many producers in the Metro Vancouver region/FVRD are struggling to remain economically viable. Institutions (provincial and municipal, households/families, food retail, commodity boards, places of learning, private sector, etc.) have not sufficiently evolved to capture the possibility that the current local food system structure, by relying heavily on the global market, may be unsustainable. Conversely, the Metro Vancouver region/FVRD may be capable of supplying a significant portion of the local food needs in a sustainable manner. It is the purpose of my thesis research to identify market barriers and opportunities, if any, within the Metro Vancouver region/FVRD and City of Vancouver to determine the potential for greater producer and buyer capacity through market access of locally produced food.

**Research method:**
I will use open-ended interviews, 30 to 45 minutes in length, of a representative sampling of persons engaged in agriculture, health, business and advocacy sectors directly related to food production, distribution, safety, nutrition, preparation and food security. A second or third interview by phone, each no more than 15 minutes in length, may be necessary for unanticipated questions, emergent issues or clarifications. An exhaustive literature search of relevant local food system information will take place before, during and after the interview process.

**Interview Technology:**
I will use high quality audio recording equipment at the interviews as permitted by the interview participant. The audio recordings will be transcribed. Drafts of the transcripts will be submitted to interviewees to review for accuracy and to elicit additional comments. This will allow me to capture more conversational and contextual data than I could do simply by taking notes.
Participant Confidentiality:
Confidentiality will be strictly maintained by the use of alphanumeric cross-referential coding and false names to disguise the identity of the subjects throughout the study as well as in subsequent publications. Only the principal investigator and/or co-investigator will have physical possession of and access to the data and storage media. Files, transcription material and all other records will be kept in a locked, filing cabinet in the secured office belonging to either of the investigators. Files located on the co-researcher’s computer hard drive will be protected by password known only to the principle and co-investigator.

Computer storage diskettes and compact discs (CDs) will be labeled “CONFIDENTIAL MATERIAL. The investigators’ contact information, including UBC mailing addresses, phone numbers and email will also be adhered to the diskettes and covers. The same precautions will be taken for transcription cassette tapes and transcripts, if any.

Remuneration/Compensation:
Neither remuneration nor compensation has been, nor will it be offered to the participant.

Contact Information:
If I have any questions or desire further information with respect to the procedures of this study or a subsequent debriefing, you may contact Dr. Art Bomke at (604) 822.6534, or Anthony J. Brunetti at (604) 822.1422.

If you have any concerns about your treatment or rights as a research participant you may contact the Interim Director of Research Services at the University of British Columbia, Dr. K.D. Srivastava at (604) 822.8165.

Participation/ Consent Agreement:
I understand that my participation in this study is entirely voluntary and that I may refuse to participate or withdraw from the study at any time without any jeopardy whatsoever.

I consent to voluntarily participate in this study: _____

I understand the purpose of this study as it is herein described: _____

I consent to being contacted by telephone by the co-investigator to address unanticipated questions directly related to the topic of the initial interview: _____

I have received a copy of this consent form and attachments for my own records:

I understand that I can refuse to participate in the interview(s) at any time: _____

________________________________________________________________
Participant Signature                                    Print Name                       Date

________________________________________________________________
Witness Signature                                        Print Name              Date
Appendix G: Letters of Introduction and Consent Taken to Interview

Thursday, February 26, 2009

My name is Tony Brunetti, a doctoral candidate in the Individual Interdisciplinary Studies Graduate Program at the University of British Columbia. I am doing research on local market access to locally produced food and its significance to the viability of agriculture in the Lower Mainland of British Columbia. I am writing to request your collaboration with my exploratory study by participating in a 30 to 45-minute interview with me.

The goals of my research are first, to identify and document producer and buyer access to the current market channels in the City of Vancouver, including the constraints, barriers and opportunities to an economically sustainable food system within the Metro Vancouver region and FVRD. Second, I want to identify what policies, practices and local conditions are relevant to producer viability and buyer access. Lastly, I want to know what can be done to improve or facilitate local marketing opportunities.

I would be grateful if you could share your knowledge and opinions regarding your experience with marketing as a producer or buyer in the Lower Mainland. Attached is a consent form indicating your willingness to participate in my research project. The consent form will commit me to ensuring confidentiality of the information you decide to share with me as well as your identity if you so desire. The consent form also recognises your right to terminate the interview process at any time.

If you have any concern or questions about my research project, please do not hesitate contacting Dr. Art Bomke, of the Faculty of Agriculture Sciences.

Respectfully,

Dr. Art Bomke
Faculty of Agriculture Sciences
University of British Columbia
fert@interchange.ubc.ca

Anthony J. Brunetti, P.Ag.
Individual Interdisciplinary Graduate Studies
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Co-Investigator:
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Doctoral Candidate
Individual Interdisciplinary Graduate Studies
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Purpose:
Many producers in the Metro Vancouver region/FVRD are struggling to remain economically viable. Institutions (provincial and municipal, households/families, food retail, commodity boards, schools) may not have evolved sufficiently to capture the understanding that the current local food system structure, by relying heavily on the global market, may be unsustainable. However, the Metro Vancouver region/FVRD may be capable of supplying a significant portion of its local food needs in a more sustainable manner. The purpose of my research is to identify market barriers and opportunities within the Metro Vancouver region/FVRD and City of Vancouver to determine the potential for greater producer and buyer capacity from market access of locally produced food.

Research Method:
I will use open-ended interviews, 30 to 45 minutes in length, of a representative sampling of persons engaged in agriculture, health, business and advocacy sectors directly related to food production, distribution, safety, nutrition, preparation and food security. A second interview by phone, no longer than 15 minutes, may be necessary for unanticipated questions, emergent issues or clarifications as subsequent interviews are conducted. An exhaustive literature search of relevant local food system information will take place before, during and after the interviews.

Interview Technology:
I will use high quality audio recording equipment at the interviews if permitted by the interview participants. The audio recordings may be transcribed for further analysis. Drafts of the transcripts will be submitted to interviewees the opportunity to review and elicit additional comments. This will allow me to capture more conversational and contextual data than I could do simply by taking notes.

Participant Confidentiality:
Confidentiality will be strictly maintained by the use of alphanumeric cross-referential coding and false names to disguise the identity of the subjects throughout the study as well as in subsequent publications. Only the principal investigator and/or co-investigator will have physical possession of and access to the data and storage media. Files, transcription material and all other records will be kept in a locked, filing cabinet in a secured office accessible to the investigators. Files located on the co-researcher’s computer will be protected by password known only to the principle and co-investigator.

Computer storage diskettes and compact discs (CDs) will be labeled “CONFIDENTIAL MATERIAL”. The investigators’ contact information, including UBC mailing addresses, phone numbers and electronic mail addresses will also be adhered to the media and protective covers. The same precautions will be taken for transcription mini-CDs and hardcopy transcripts.
Remuneration/Compensation:
Neither remuneration nor compensation has been, nor will it be offered to the participants.

Contact Information For The Research Participants:
If you have any questions or desire further information with respect to the procedures of this study or a subsequent debriefing, you can contact Dr. Art Bomke at fert@interchange.ubc.ca, or Tony Brunetti at (604) 822.1422.

If you have any concerns about your treatment or rights as a research participant you may contact the Director of Research Services at the University of British Columbia, Dr. at (604) 822.8165.

PARTICIPATION/CONSENT AGREEMENT:
I understand that my participation in this study is entirely voluntary and that I may refuse to participate or withdraw from the study at any time without any jeopardy whatsoever.

Please initial the following statements:

1. I understand the purpose of this study as it is herein described: ______

2. I consent to voluntarily participate in this study: ______

3. I consent to being contacted by telephone by the co-investigator to address unanticipated questions directly related to the topic of the initial interview: ______

4. I have received a copy of this consent form for my own records: ______

5. I understand that I can refuse to participate in the interview(s) at any time: ______

6. Returning this form I consent to being contacted by phone to arrange the interview: ______

7. My phone number is: ___________________.
   The best time to call is: ___________________.

Participant Signature                                      Print Name                          Date

Witness Signature                                         Print Name                          Date

Please complete the Informed Consent form and return it using the self-addressed stamped envelope provided while retaining the second copy for your records.