Going Local for a Change: Towards a Community Food Security Approach to Farm-to-University Development at Concordia University, Montreal, Quebec

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ABSTRACT

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In rural and urban communities across North America, signs that our modern food system is failing our farmers, our environment, our health and our poor are growing painfully apparent. Now that we find ourselves at the brink, an appetite for change has started to develop. Farm-to-university programs are among a new crop of food system alternatives designed to change food and agriculture from the ground-up. Regarded as the planned efforts to connect universities with local farms, farm-to-university is intended to benefit farmers with fair and stable markets while making local sustainable food more accessible to members of university communities.

As an initial assessment of the possibilities for farm-to-university at Concordia University, this community food planning study was an attempt to identify stakeholder interests as well as potential barriers and opportunities to development. Using a community food security framework focused on partnership, program and policy development, this thesis sought to connect with relevant and diverse stakeholders from both inside and outside the University. Based on stakeholder interviews, student surveys and an analysis of produce purchasing data, this study found that Concordia University needs new purchasing and supply structures that can effectively link food services and farmers in order to become a reliable market for local sustainable food. Perhaps more importantly, it found that Concordia University needs to see itself as part of the solution and ultimately redefine its current relationship with food to become a force for change. Based on these findings, the study identifies several topics for future research.

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1.0 INTRODUCTION

Amid growing concerns about the sustainability of our modern food system, more and more people and communities across North America are 'going local' by choosing locally grown and raised foods. Eating locally is being touted by a wide chorus of proponents as a way to eat fresh and healthy foods while supporting local agriculture and reducing fossil fuel consumption used to transport food from farm-to-fork. Moving beyond simple 'buy-local' campaigns which have been a staple of major supermarkets for years, many proponents see the burgeoning local food movement as a means to systemically change food and agriculture from the ground-up. They advocate for alternative food systems that value sustainability and food security. The resurgence of farmers' markets and the birth of community supported agriculture (CSA) in the past decade demonstrates that many people are interested in connecting with the source of their food.[1] These alternatives are creating greater opportunities for small-scale producers to sell their sustainable farm products direct-to-market, while making it easier for consumers to make socially and environmentally responsible food choices. Together, these like-minded producers and consumers are taking back more control of the food system and changing the way food is produced, processed, distributed and consumed. In the process they are challenging the dominance of the modern food system; a system that many believe is unsustainable and indicative of a system that has become highly fractured and dysfunctional (Lapping, 2004).

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[1] Community supported agriculture or CSA is based on a direct connection between the farmer and the consumer. CSA is a form of subscription marketing where consumers or members purchase a 'share' in the farm at the beginning of the growing season in exchange for fresh produce picked throughout the season. Almost all CSA farms use organic farming methods. For farmers, CSA provides a guaranteed market for their harvest and an immediate cash flow with no intermediaries. For the consumer, CSA provides direct access to a large variety of 'sustainable' food and a more immediate connection with agriculture (Allen, 2004; Lapping, 2004)

1.1 THE MODERN FOOD SYSTEM

The term "food system" has been used to conceptualize a range of integrated activities and forces acting upon the movement of food from producer to consumer to eventual disposal (Atkins & Bowler, 2001). Food systems can have many components but most interpretations include food production, processing, distribution and retailing; food preparation and consumption; the disposal of food wastes and the various support systems required for the viable operation of food systems (Dahlberg, 1993; Atkins & Bowler, 2001).

The origins of our modern food system, which theoretically date back to earlier mercantilist and colonial times, is largely the result of rapid changes in food and agriculture over the past few decades (Koc & Dahlberg, 1999). Three significant processes; the industrialization of agriculture, corporate concentration and control, and the growth of globalized markets, have helped shape what we know today as a highly efficient food system capable of producing and distributing vast quantities of food all over the world (Lapping, 2004). For the average North American consumer, these developments have led to relatively inexpensive food prices along with a cornucopia of food choices sourced from around the world. The main problem, however, is that these foods come to us with many hidden environmental, social and health costs. These costs provide an impetus for the growing interest in alternative food systems and local food-based strategies.

The post-war 'Green Revolution' industrialized virtually every aspect of food production. The act of growing food, which at one time required only basic on-farm inputs such as soil, water, seed and weather, has become fossil fuel and capital intensive

(Allen, 2004). Industrial forms of agriculture rely on chemical fertilizers, pesticides and monocultures to be productive, viable and efficient. While industrial agriculture strives to keep costs low and productivity high, its methods also create a wide range of ecological problems. Modern cultivation practices accelerate soil erosion and compaction and innovations such as large-scale irrigation systems are heavy consumers of water.[2] Fertilizer and pesticide runoff from farms are also a leading non-point source of water pollution. The impacts of this runoff extend far beyond the farm gate and have been linked to poor quality tap water in urban areas (Allen, 2004). For farmers, industrial agriculture leaves them with little choice but to scale-up, adopt all the latest technologies and sell through commodity markets if they want to survive. Unfortunately, these trends have left many small-scale farmers, who were once the backbone of our food system, in deep crisis.[3] Faced with rising off-farm input prices and shrinking returns, most farmers can no longer make a living caring for their farm and producing food. As these farmers leave agriculture, many rural communities struggle to exist (Lappé & Lappé, 2003). When small farms die, the land is either sold to a larger neighbouring farm or to urban developers never to be farmed again.

At the same time the modern food system is also experiencing an unprecedented degree of corporate consolidation. Not too long ago, the decision of what, how, when and where to produce was determined by farmers based on local demand, climate and

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[2] Agriculture in Canada was the fourth largest water user in 1996. Of this, 85 percent of withdrawals were used specifically for irrigation (Statistics Canada, 2001).

[3] In a twenty year period between 1986 and 2006, Canada lost over one-quarter of its farms while the average farm size increased by over one-fifth (Statistics Canada, 2006). With each passing year, Canadian farmers receive less for the food they produce relative to the price consumers pay for food at the supermarket (Martz, 2004). Since 2000, the average net income of farms minus government subsidies has been less than zero and well below the average net income of farms during the Great Depression (National Farmers Union, 2005). To make up for lost income, farmers and their families work more off-farm to support on-farm operations. In 2000, 73 percent of the total average farm family income came from off-farm employment (Martz, 2004).

farming knowledge. Today, large food companies and agri-business, with the assistance of governments, make those decisions based on global demand for cheap food commodities, biotechnology and profit (Norberg-Hodge, Merrifield & Gorlick, 2002). As farmers have become expendable actors in the food system, corporations now own and operate the only remaining profitable areas. These include intermediaries such as processing, distributing and retailing as well as the sale of off-farm inputs such as agricultural chemicals, machinery and seeds. The shift in power from the farm to the corporation has reached a critical point where only a handful of firms control much of the food we eat.[4] This has many people worried that corporations are eroding our food democracy; the right of people and communities to shape the food system including how we should grow our food and feed ourselves (Hassanein, 2003).

Increasingly, much of the food we eat in North America is imported from abroad. More efficient global transportation networks and the lure of bigger profits have made it possible for corporations to ship food to markets all over the world. Global food, however, has come at the loss of regional culture and biodiversity. The global search for low-cost production and processing has altered the function of many food producing regions around the world. It is now possible to visit farms in regions that were once agriculturally diverse and experience large-scale monoculture intended to exploit a regions' 'comparative advantage' in the global marketplace (Lyson, 2004). A trend towards monoculture and genetic modification means fewer crop and seed varieties are needed to grow most of what the world eats. This raises important questions about the vulnerability of our agricultural base and our ability to grow food under changing

[4] In Canada for example, four food retailers control 78 percent of all food sales, 79 percent of the wheat flour market is controlled by four flour millers, and in beef packing, two firms control nearly 74 percent of that market (Market Share Matrix Project, 2007).

climatic conditions (Norberg-Hodge et al., 2002). Global food has also come at the cost of increased greenhouse gas (GHG) emissions. "Food miles", a concept that refers to the distance our food travels from point of production to point of consumption, has become an important environmental indicator of our dependence on fossil fuels and imported food. It has been estimated that in North America, the average food item travels 2,400km from the farm gate to the kitchen table (Halweil, 2004). Greenhouse gas emissions associated with food transportation is considered a major contributor to human-induced climate change (Norberg-Hodge et al., 2002).

Farmers and rural communities are not the only ones feeling the negative impacts of our modern food system. Consumers and urban communities are also affected. The average urban consumer with access to cheap and plentiful food 24 hours a day is less and less connected to the places and methods of food production. This separation or 'distancing' of consumers and producers by space and industrial processes, disempowers them from working together to recover control at the local level (Kneen, 1993). At the same time, 'cheap food', a term often used to describe the prevalence of low-cost high-energy processed foods, has greatly altered society's relationship with food (Feenstra, 2002). This is evident in the rising rates of diet related diseases; some of which have hit epidemic status.[5] Astonishingly, while some eat too much, others do not have enough to eat. Indeed, cheap food has not guaranteed food security for all.[6] Emergency food sources such as food banks have reached the level of 'institutionalization', as an

[5] Among Canadian children aged 2 to 17, 8 percent or 500,000 children were obese in 2004 compared to 3 percent in 1978/79. The growth in obesity was even higher for adults (Statistics Canada, 2005).
[6] According to the Canadian Community Health Survey, in 2004, 1.1 million households or 2.7 million Canadians lived in food insecure households. Household food insecurity was defined as one or more situations in a year where a household's food consumption is compromised due to financial constraints (Health Canada, 2007).

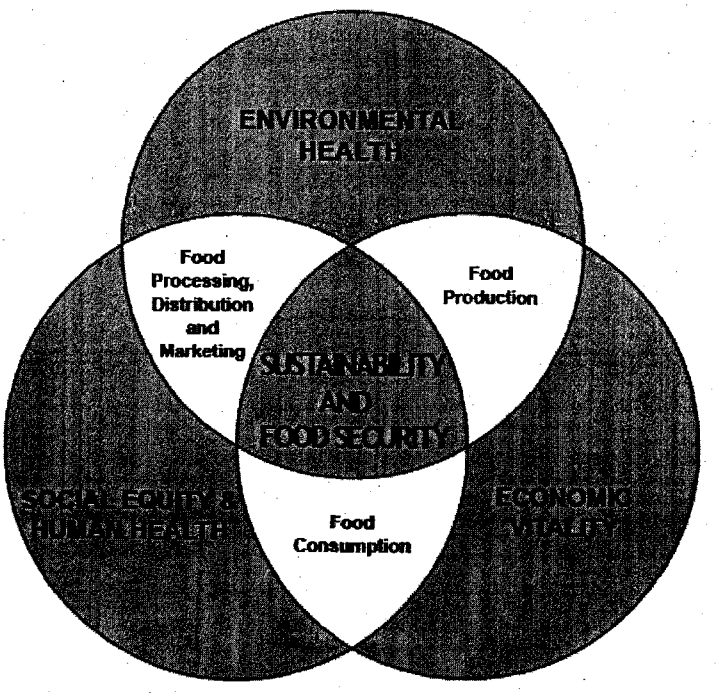
increasing number people depend on them to meet their daily basic sustenance (Riches, 2002).

1.2 COMMUNITY FOOD SECURITY AND LOCAL FOOD SYSTEMS

The need for alternative food systems - food and agriculture focused on sustainability and food security - grew out of a desire by many to reform the food system. Currently, the development of local food systems is being promoted as one alternative strategy. Efforts to build the infrastructures and support systems necessary to sustain local food systems in North America have been led by two movements: sustainable agriculture and food security. In the past, these movements were almost entirely separate pursuits. Sustainable agriculture focused on production-centred issues such as the ecological health of the resource base and the continued viability of the farming unit, while food security focused on issues of distribution and consumption and how they impact peoples' access to an adequate diet at all times (Lezberg, 2003). In recent years, as public interest in food issues and the sale of alternative foods such as organics and fair trade products has grown, these movements have moved closer together (Allen, 2004). It is now widely acknowledged by proponents that the goals of sustainable agriculture and food security are highly complementary and achieving them requires an integrated systems approach that brings diverse people from throughout the food system to the table to work towards changing the food system together (Lezberg, 2003). Figure 1 provides an illustration of an alternative food system where sustainable food production, processing, distribution and consumption converge to enhance the environmental, economic, social, human health and ultimately the food security of a particular place.

Community Food Security (CFS) is a relatively new approach to food security

Figure 1: Conceptual Interpretation of an Alternative Food System



Source: Adapted from Garrett & Feenstra (1999)

that embodies the notion of bottom-up, systemic change. As a goal, CFS is defined as "a condition in which all community residents obtain a safe, culturally acceptable, nutritionally adequate diet through a sustainable food system that maximizes community self-reliance, social justice and democratic decision-making (Hamm & Bellows, 2002, as cited in Winne, 2004, p.2). As a methodology, CFS is grounded disciplinarily in urban planning and incorporates three basic components: partnership, project and policy development (Winne, Joseph, & Fisher, 1997). In practice, CFS uses a food systems approach and community development model to address food issues and reconnect producers and consumers in ways that promote a more sustainable agriculture, healthier eating and community control.

Even though CFS is not explicitly a local food strategy, most proponents believe some level of food system localization is necessary to achieving it. A CFS approach sees

local food as more than just food grown close to home. Indeed, for many, foods produced on nearby farms or from local processors may be unsustainable.[7] For this reason, CFS advocates for the development of local 'sustainable' food systems. As there are many definitions of 'local sustainable food', for many it means foods that strengthen markets for small-scale farmers, create local jobs, promote more sustainable production methods, reduce GHG emissions and food miles, protect farmland against urban encroachment, help places and regions become more self-sufficient, foster democratic participation in the local food economy, and cultivate greater networks of trust and care between producers and consumers (Allen, 2004; Feenstra, 2002; Kloppenburg, Hendrickson & Stevenson, 1996). The specific forms these locally-based alternatives take include CSA, farmers' markets, farm-to-institution programs, urban agriculture, community gardens and food policy councils among others (Winne et al., 1997).

Farm-to-university programs are among this new crop of food system alternatives generating considerable interest in local food circles. Regarded as the planned efforts to connect universities with local farms, farm-to-university is intended to address a wide range of food system problems and benefit all participants (Vallianatos Gottlieb, & Haase, 2004). Central to this concept is the idea of diverse stakeholders from throughout the food system working together to build strong community-based food networks that support universities as markets for local farm products. Quite often programs will have an educational component as well (Murray, 2005). The intention of farm-to-university programs is to make local sustainable food more accessible to university communities

[7] For instance, while pork and corn raised and grown on farms in the Monteregie region may be considered 'local' for an eater in Montreal, these foods are often produced on large-scale industrial farms who supply food networks that are more conventional than alternative. Therefore it can be argued that eating 'local' pork or corn produced on these farms is an unsustainable act.

while supporting local farmers with an additional source of income and a relatively secure market (Allen, 2004).

1.3 RESEARCH RATIONALE AND FOCUS

Despite an increasing amount of academic research on CFS and local food systems, only a limited number of studies have focused specifically on farm-to-university.[8] Most of the literature on this topic is best described as 'how-to' informational guides developed by community organizations for farmers and activists interested in starting or becoming involved in a farm-to-university program. Interestingly, a few of the most insightful studies have been masters theses (Murray, 2005; Beckett, 2006). While relatively little research has been undertaken, the existing research tells us that while the ideas and motivations behind farm-to-university programs are generally shared, their manifestations and interpretations are community-specific and closely tied to local context (Johnson & Stevenson, 1998; Murray, 2005; Beckett, 2006).

In an effort to create demand for this innovative concept, this community food planning study was undertaken to assess the possibilities for farm-to-university development at Concordia University in Montreal, Quebec, Canada. In recent years, the Concordia University community has taken significant steps to incorporate sustainable designs and practices into the life blood of the institution. At the same time, organic agriculture and the local food movement in Quebec has gathered considerable momentum and popularity among producers and consumers. Against this backdrop, this study sought to connect with relevant and diverse stakeholders from both inside and outside the University. Using a CFS approach, this study was an attempt to collect and analyze

[8] For farm-to-university studies see Pirog, 2002; Johnson & Stevenson, 1998. For farm-to-school studies see Vallianatos et al., 2004; Kloppenburg & Hassanein, 2006; Allen & Guthman, 2006

community-specific information with the purpose of identifying stakeholder interests as well as barriers and opportunities to development. The goal was to provide policy recommendations intended to inform leaders who could lay the groundwork for farm-to-university in their communities. With this initial assessment, future research could add more depth and this study points to a number of areas where additional research is needed.

Situating this food study in planning has implications for the discipline. The food system has not been a traditional area of concern in most planning practice and research. Public policy and other factors have contributed to framing food as science and rural issues, thus delegating food to the bottom-end of the urban agenda (Pothukuchi & Kaufman, 1999; Allen, 2004). Food is of course an important part of the urban fabric and is highly connected with other urban systems such as transportation, housing, employment, public health and the environment (Pothukuchi & Kaufman, 1999). Compared to previous approaches to food issues, CFS is a vastly different in that it is rooted in the planning discipline. Its emergence has opened a window for planners to become more involved which can be seen by the rising number of food planning studies in the academic literature.[9] This study, therefore, adds to this growing body of knowledge by examining the potential for farm-to-university at a large public university.

1.4 LOCAL CONTEXT

1.4.1 Agriculture in Quebec

Agriculture has a long and important history in Quebec but even so, it has not been immune to the farming crisis. During the past two decades ranging from 1981 to

[9] See Born & Purcell, 2006; Campbell, 2004; Vallianatos et al., 2004; Pothukuchi, 2004; Pothukuchi & Kaufman, 2000, 1999.

2001, the number of Quebec farms declined 33.2 percent to just over 32,000 farms; a rate of decline much higher than the national average of 22.4 percent. Quebec farms are also getting larger. The average farm size in 2001 was 262 acres; an increase of over 35 percent since 1981 (Statistics Canada, 2003).

Agricultural land occupies only 2 percent of the total land area and is located mainly along the St. Lawrence River Valley. Agricultural production is heavily concentrated in animal and corn production and is less diverse than in the past. Nearly three-quarters of all agricultural production is in livestock, with dairy and pork being the largest and second largest sectors respectively. Pork production and the environmental impacts of large-scale industrial pig farming have been the subject of intense political debate in the province over the past few decades. Quebec is the largest producer of pork in Canada and the industry is heavily oriented towards export markets. Supporting pork production, corn and other field crops represent the largest sector of crop production. The production of vegetables accounts for only 8 percent of the total agricultural market, however, Quebec is second in Canada in total acres of vegetables behind Ontario (Statistics Canada, 2007).

The organic sector is one promising area that has recently seen a rise in popularity. Organic agriculture is currently being promoted as a type of sustainable agriculture. Organic food is defined as food grown without the use of synthetic pesticides, fertilizers, hormones or genetic modification (Canadian Organic Growers, 2007). In 1999, Quebec became the first jurisdiction in Canada to establish an organic standard and government oversight into organic certification (Filière Biologique du Quebec, 2003). According to the Canadian Organic Growers (2006), there were 816

organic producers in Quebec (2nd largest in Canada) with 69,024 acres under cultivation (4th largest in Canada) in 2005. With an annual growth rate of 20 percent, organic food sales represent the fastest growing segment of the food industry (Agriculture and Agri-Food Canada, 2007).

While the growth of the organic sector is largely welcomed news for alternative food advocates, many are concerned with the direction the industry is headed. As organic food becomes increasingly mainstream and integrated into more modern food systems, much of the organic food produced in Quebec is destined for export. This leaves imports with the duty of fulfilling consumer demand. Agriculture and Agri-Food Canada estimates that 85 percent of organic foods sold in Quebec are imported (as cited in Commission sur l'avenir de l'agriculture et de l'agroalimentaire québécois [CAAAQ], 2008). This has raised many important questions about the 'alternativeness' of organics and the ability of production-centric approaches to bring about meaningful change to food and agriculture. It also means that purchasing local organic food can be difficult.

In response, the local food movement in Quebec is creating opportunities that allow consumers greater access to local organic food sourced through more sustainable community-based food systems. Équiterre, a non-profit organization dedicated to promoting socially and environmentally responsible choices, has facilitated a CSA program since 1995. Today their CSA farm network boasts more than 140 small organic farms and 350 drop-off points located throughout 13 regions in Quebec. Équiterre estimates that 26,000 consumers benefited from 8,700 organic baskets offered in 2007 (Équiterre, 2008). In addition to CSA, Équiterre also coordinates connections between local organic farmers and day cares that serve food to young children through a program

called *Garderie Bio*. These programs, including numerous farmers' markets throughout the province, are among the best ways people and communities in Quebec can access local organic foods as well as participate in shaping food systems to benefit communities.

1.4.2 Food and Sustainability at Concordia University

Concordia University was chosen as a case study institution for this research. Concordia is a large urban public university with nearly 45,000 students and 12,000 staff and faculty members on two campuses; Sir George Williams (SGW) in downtown Montreal and Loyola in the suburb of NDG (Concordia University, 2008). Food services at Concordia University are typical of most other public institutions in North America in that it hires a contracted food service provider that offers conventional food choices sourced through large, corporately-controlled food networks. Chartwells, a subsidiary of Compass Group - the world's largest food service provider - currently provides food services at Concordia University in the areas of catering, snacking and vending, and retail food sales including meal plan programs for over 400 students in residence. The Chartwells food contract has a term of 13 years which commenced in May 2002 and will terminate in 2015.

In just a few years, campus sustainability initiatives have become integral parts of daily life at Concordia University. Following the success of the first student-initiated Concordia Campus Sustainability Assessment in 2003, which made numerous recommendations for improving the sustainability of the institution, the University appointed two full-time coordinator positions to carry out this work at the administrative level (Sustainable Concordia, 2007). Among the many projects, Concordia administration, staff, faculty and students have managed to implement a rejuvenated all-

organic rooftop greenhouse, a large-scale recycling and composting program, and a yearly sustainable business conference. In the area of food, student-run food initiatives under the banner, the Concordia Food Collective, operate two distinct operations at the SGW campus that are popular among many students. The Peoples' Potato is a food provider that serves hundreds of free vegan meals each day, while Le Frigo Vert is a cooperative food store that carries a wide range of socially and environmentally responsible foods. Together, these student-run food initiatives offer an alternative to the conventional food choices available at Chartwells.

1.4.3 Defining Local Food

On a political level, this study sees local food as a way to bring systemic change to the food system based on sustainability, food security and community control. As such, the term 'local sustainable food' was often used throughout this study. On a geographic level, local food was defined as food grown and raised in the province of Quebec. However, given that Quebec is Canada's largest province covering 1,365,128 km^2 of land, it is important to reiterate that agriculture occupies only a small percentage of the total land base. In relation to the Island of Montreal, a large proportion of the total farm base is within close proximity. This includes the Monteregie region on the south shore of the St. Lawrence River. The Monteregie region is the main driver of agriculture in Quebec and accounts for nearly one-quarter of all farms in the province.[10] Thus, when we speak of agriculture and local food in Quebec, we are in fact referring to very specific areas of the province that are, very fortunately, relatively close to Concordia University (see Appendix A for map).

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[10] Farms in the Monteregie region represent 44 percent of vegetable growers and 39 percent of fruit growers (Ministere de l'Agriculture, des Pêcheries et de l'Alimentation du Québec [MAPAQ], 2007).

1.5 RESEARCH QUESTION

The primary research question was: *what barriers, opportunities and potential strategies exist for farm-to-university development at a large public university?*

To this end, this research had three objectives:

1. to identify stakeholder interests towards farm-to-university;
2. to identify barriers and opportunities to farm-to-university development and;
3. to identify potential strategies for supporting farm-to-university development.

1.6 ASSUMPTIONS

This study makes a number of assumptions. First, it assumes that creating demand for local food alternatives is crucial to creating food system change and that one way to do this is by engaging with as many relevant stakeholders as possible. Second, this study presumes that while local food systems (and subsequently farm-to-university) are not the panacea to all food system ills, those that are focused on sustainability, food security and community hold tremendous potential to make a difference and move food and agriculture in a positive direction. Finally, this study is based on the assumption that because of their large purchasing power, focus on research and education, and special place in society, universities can be important partners in developing local food systems. Provided that universities can be important vehicles for food system change, this study further assumes that Concordia University and agriculture in Quebec are ripe for this kind of development.

2.0 LITERATURE REVIEW

This chapter provides a review of the existing literature relevant to this thesis. Areas that are covered include: localism and local food systems, community food security (CFS), food planning and farm-to-university. These areas provide a theoretical context and help frame the research.

2.1 LOCALISM AND LOCAL FOOD SYSTEMS

Similar to other contemporary social and environmental movements concerned about the impacts of globalization, alternative food movements have embraced the scalar concept of localism (Allen, 2004). The literature reveals the reactionary use of this concept as it is often posited as a counterpoint to conventional global economic development. Proponents of localism, which include a broad range of activists and academics, typically understand localization as "a process which reverses the trend of globalization by discriminating in favour of the local" (Hines, 2002 as cited in Hinrichs, 2003, p.34). With respect to food systems, the idea that 'place' and 'scale' matter have recently emerged "as a banner under which people attempt to counteract trends of economic concentration, social disempowerment, and environmental degradation in the food and agricultural landscape..." (Hinrichs, 2003, p.33).

The development and promotion of local food systems is widely practiced within alternative food movements, including CFS. The literature distinguishes between the origins and nature of food system localization currently taking place in North America and Europe. Unlike in Europe where localization is closely tied to new forms of rural development grounded in cultural tradition and the recovery of regional distinction, the North American approach finds its roots in transformative social movements (Hinrichs, 2003).

The food activist discourse in North America often equates food system localization with the promotion of environmental sustainability and social justice within particular places. As DuPuis and Goodman (2005, p.359) observe, the activist discourse frames 'the local' as the "space or context where ethical norms and values can flourish... [the local] becomes inextricably part of the explanation for the rise of alternative, and more sustainable, food networks". Allen (2004) notes that localization has become common sense in alternative food movements where it is widely believed that strong local autonomy leads to more sustainable outcomes. Indeed, local food systems are envisioned as good and desirable on multiple levels. In their examination of buy-local campaign literature, Born and Purcell (2006) show how local food is often conflated with ideals such as superior taste, quality and nutrition; organic and sustainable food production; support for local farm families; creating stronger communities; preservation of open space; a clean and healthy environment; keeping food dollars in the local economy; and rural economic development.

The academic literature on local food systems echoes much of the food activist discourse. Indeed, local food systems; by virtue of their connectedness to environmentalism and social justice, are often assumed to be an automatic solution to modern food and agricultural problems;

> in the US, the academic literature on alternative food systems emphasizes the strength of an embeddedness in local norms such as the ethics of care, stewardship and agrarian visions. This normative localism places a set of pure, conflict-free local values and local knowledges in resistance to anomic and contradictory capitalist forces (DuPuis and Goodman, 2005, p.359).

Conceptualized in this way, global and local end up serving "as conceptual shorthand for movements towards opposite poles" where global is seen as 'bad' and local as 'good'

(Hinrichs, 2003, p.35). Lang (1999) summarizes some of the key attributes that differentiate global and local in this dichotomous manner (see Table 1).

Both sets of activist and academic conceptualizations of food system localization noted here fall under what Ilbery and Maye (2005) call an idealistic approach to sustainable food systems. This approach offers a way to directly challenge the dominant global food system, with local foods seen as part of a more socially just and environmentally sustainable alternative.[11] In the tradition of social movements in North America, an idealistic approach can act as a catalyst for mobilizing diverse groups around common efforts to create food system change at the local level (Hinrichs, 2003).[12] In a critical review of the turn to local, Allen (2004) argues that there are both practical and political reasons for an interest in localization. The following sections examine some of the theoretical underpinnings for favouring food system localization. It concludes with a critique of local food systems from recent academic studies in human geography, rural sociology and planning.

2.1.1 Food Miles

The main practicality argument for local food is also the main ecological argument and rests with the notion of food miles.[13] Hinrichs (2003, p.35) writes, "accounting for 'food miles' reinforces the environmental logic of local. The energy used and impact of greenhouse gas (GHG) emissions through transportation...bolsters the case for more 'local' food". With a growing interest in finding ways to reduce fossil fuel

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[11] Ilbery & Maye (2005) say this differs from an instrumentalist approach which seeks to reduce the negative externalities associated with modern food and farming by making incremental changes to the current system.

[12] Allen (2004, p.165) notes that 'the local turn' by social movements in the United States began in the 1960, "based partly on ideological commitments to participatory democracy, decentralization, and human-scale systems, and partly on practical limitations in resources".

[13] See Introduction for definition.

Table 1: Global and Local Attributes

Global	Local
Urban/rural divisions	Urban-rural partnership
Long trade routes (food miles)	Short trade routes
Few market players (concentration)	Multiple players per sector
Monoculture	Biodiversity
Agrochemicals	Organic/sustainable farming
Processed food	Fresh food
Food from factories	Food from the land
Fast food	Slow food
Global decisions	Local decisions
Dependency culture	Self-reliance
Consumers	Citizens

Source: Adapted from Lang, 1999

consumption, food mile studies draw our attention to the correlation between the distances our food travels and the amount of GHG emitted during transportation. The potential environmental benefits of reducing food miles has been the subject of a number of recent studies. A study by Pretty, Ball, Lang & Morison (2005) suggests that reducing food miles may be more environmentally beneficial compared to farming organically. Their study examined the full cost of an average weekly food basket in Britain under a number of 'unlikely' scenarios. They found that sourcing all food locally (food grown and raised within 20km) would reduce externalized environmental costs more than switching all the farms in Britain to organic agriculture. Closer to home, a 2005 study by Waterloo Region Public Health in Ontario found that select food imports into the Region required an average of 4,497 km of transport compared to 30 km for the same foods sourced locally. The study also calculated the amount of GHG emissions produced for every kilogram of food shipped. The imported foods generated an average of 1.3 kg of GHG emissions while the local options generated just .008 kg.

2.1.2 Self-Reliance

The literature on local food systems emphasizes the importance and practicality of

local self-reliance. According to Nozick (1992), a self-reliant economy produces goods for itself as opposed to importing them from abroad. This places self-reliance in direct opposition to the mainstream global economy which relies on spatially extended markets to supply localities with their basic needs. Nozick (p.43) argues that a self-reliant community "aims to give roots to local economic activity by tying it to local markets and production to serve community needs. It also strives to capture and retain the wealth produced in a community". On this last point, a British study conducted by the New Economic Foundation, found that for every £1 spent on a local organic box, £2.59 was generated for the local economy compared to £1.40 generated by every £1 spent at the supermarket (as cited in Ilbery and Maye, 2005).

The literature does make it clear that self-reliance does not entail places and regions becoming isolated. It does imply however, a reduction on food imported from non-local sources. It seems well understood that the goal of localization is not to be completely self-reliant, but to maximize local capacity wherever possible. Along these lines Norberg-Hodge et al. (2002) point out that local food systems work to regain a healthy balance between trade and local production in order to "reduce unnecessary transport while encouraging changes that strengthen and diversify economies at the community as well as national level" (p.113). Import substitution, where an imported good is substituted for an equivalent locally produced good, has been suggested as one possible strategy for localities to find practical ways to reduce their dependency on imported foods while creating opportunities for development within local food systems (Bellows and Hamm, 2001).

2.1.3 Embeddedness

The concept of social embeddedness views economic behaviour as conditioned by a complex web of social relations (Ilbery & Maye, 2005). The literature suggests that a strong sense of social embeddedness in food systems is desirable as it helps move us closer towards the decommodification of food, social equity and democracy (Hinrichs, 2000; Feenstra, 2002). Proximity is considered by many to be an important element in facilitating social embeddedness due in large part to the possibility of face-to-face contact and a shared understanding of the local (Hinrichs, 2003). It is frequently stated that participation in local direct-marketing initiatives such as farmers' markets and community-supported agriculture (CSA), yield relationships of trust, acknowledgment, respect, or what some have described as the "geography of regard" (Ilbery & Maye, 2005). As Lyson and Green (1999) explain, "if relations between producers and consumers are distant and anonymous in more 'global food systems', in local, direct markets, they are immediate, personal and enacted in shared space" (cited in Hinrichs, 2000, p.295). This is similar to the way Kloppenburg, Hendrickson and Stevenson (1996) conceptualize their 'foodshed' model. In their view, local food systems are envisioned as embedded in a 'moral economy' that 'conditions' the market. The authors believe that by re-embedding alternative social relationships such as caring and stewardship back into the market economy, food production can be used to meet human as well as economic needs.

2.1.4 Critique: Towards a Reflexive and Diverse Localism

While the literature generally views food system localization as positive and progressive, many recent studies have raised cautionary flags. The main point of

contention regards scale and its role in building alternative food systems. Those who challenge the basic assumption of the local as good and desirable argue that there is nothing inherent about scale, any scale. Research from geography tells us that scale is socially produced, meaning its qualities such as extent and function are the result of political and social struggles among particular actors in particular places at particular times (Born & Purrcell, 2006). Born and Purrcell (2006) explain that the goals achieved in local food systems,

> will depend not on the scale itself but on the agenda of those who are empowered by the scalar strategy. Localizing food systems, therefore, does not lead inherently to greater sustainability or to any other goal. It leads wherever those it empowers want it to lead (p.196).

From this perspective, the local should not be taken as a given entity. The local is neither necessarily good nor bad. Localization and local food systems can produce a wide range of outcomes which are "equally likely to be just or unjust, sustainable or unsustainable, secure or insecure" (Born & Purrcell, 2006, p.195).

Many academics have criticized the local-global dichotomy as ignoring interscalar relationships (Born & Purrcell, 2006; Hinrichs, 2003). They say that the local is embedded in multiple scales and that its meaning only comes to life in relation to another (e.g. national or global scales) (Born & Purrcell, 2006). Indeed, some researchers prefer to characterize food systems as either 'more local' or 'more global' since they can never be completely separate (Bellows & Hamm, 2001). This is brought to light in a study by Ilbery and Maye (2005) who conclude that economic necessity and survival will often override any strict ideological stance towards localism. Their study of small alternative rural food businesses in Britain revealed that many of them sourced inputs from overseas and sold to markets (local and non-local) that were more conventional than

alternative. These findings suggest the more likely position of alternative as composed of hybrid food geographies (Ilbery and Maye, 2005). Their findings also caution against conflating terms such as local, sustainable and alternative as their meanings may not necessarily correlate in all instances.

While the literature does not dispute the importance of personal contact to embeddedness in local food systems, there is a general consensus that outcomes such as trust and care, have more to do with the actual social relations than with scale (Hinrichs, 2000; Watts, Ilbery & Maye, 2005). Winter (2003) reminds us that social embeddedness is present in all market transactions at all scales, not just in local alternative markets.

Despite a tendency in the literature to downplay any evidence of market sensibilities on the part of local actors, the presence of social embeddedness does not lead to a situation where economic interests are completely set aside (Hinrichs, 2000). Hinrichs (2000) notes that one main reason farmers participate in farmers' markets is due to the price premiums they receive relative to conventional wholesale markets. Given the farming crisis in North America, farmers must be attuned to market conditions since making a living wage and maintaining the farm matter so much. Even in CSA, where Hinrichs finds considerable potential for decommodified relations in the concept of shares, farmers still must set fair share prices to attract and retain members. They must also address, from time to time, members' demands for predictable quantities of desirable produce. All of this suggests that additional caution must be taken before making sweeping generalizations about embeddedness in local food systems.

The literature suggests two broad tendencies in the politics of localization. On the one hand, a localism which automatically equates localization to positive social,

economic and environmental outcomes, denies or obscures a politics in place. This type of unreflexive or defensive localism arises from more traditional, conservative and romanticised notions of the local (DuPuis & Goodman, 2005; Hinrichs, 2003). By minimizing internal difference in the name of some 'local good', unreflexive localism tends to favour solutions that reaffirm local elitist power (Hinrichs, 2003). As Allen (1999) argues, we cannot assume spatial proximity can intrinsically reduce socio-economic distances between social groups living in a particular place. Without democratic participation and social equity as primary goals, "localism can subordinate material and cultural differences to a mythical community interest" (Allen, 1999, p.121). On the other hand, a localism that arises from democratic processes represent a more reflexive or diverse localism (DuPuis & Goodman, 2005; Hinrichs, 2003). This type of localism "sees the local embedded within a larger national or world community, recognizing that the content and interests of 'local' are relational and open to change" (Hinrichs 2003, p.37). According to Watts et al. (2005), local food system initiatives based on an unreflexive localism represent a weaker alternative since they narrow the debate on the possible meanings of the local in favour of those presently in power. They suggest a more diverse localism is stronger and, from an economic perspective, potentially less susceptible to cooptation by more conventional food system actors.[14]

In practice, the politics of food system localization can acquire a highly complex flavour. Hinrichs' (2003) account of a local food dining event, the 'Iowa-grown banquet

[14] The issue of corporate cooptation has become a serious concern in alternative food movements. The organic foods sector provides a recent example of corporate cooptation. While the organic movement's original intent was to bring people closer to the source of their food, the integration of organic farming into modern food systems has slowly eroded this meaning of organic. As a result, most organic foods have become just another niche product which enables large food processors and retailers to fetch a premium price. Thus, many alternative food advocates believe organics foods may do more to further segment the marketplace into a two-tier system than provide a real vehicle for food system change.

meal', illustrates that the lines separating defensive and diverse localism can sometimes be blurry. The researcher explains how the first few Iowa banquet meals were cast as patriotic acts where educated, upper-middle income 'movers and shakers' in local politics sat down to a traditional Midwest farmhouse meal. However, in a move away from defensiveness, these events have started incorporating a wider selection of local fruits and vegetables as well as non-northern European dishes and flavours. In addition, farmers have been invited to speak about their farm and how they produce, giving listeners a greater sense of connection to the source of their food. Reflecting on these subtle shifts in politics, Hinrichs observes how localization in Iowa, which began as defensive (and still largely is), can progress and incorporate new possibilities for diversity: "[i]ndeed, these very cross-fertilizations and culinary hybridities would seem to support a more forward-looking localization politics that makes history the springboard to a more diverse future" (2003, p.42).

Despite criticism, food system localization remains an important strategy for food system change. What is important is that localization be treated as a means to an end as opposed to an end in itself. This means recognizing that the turn to local "may cover many forms of agriculture, encompassing a variety of consumer motivations and giving rise to a wide range of politics" (Winter, 2003, p.30). The literature suggests a more diverse localism can help to shift power away from corporate control and industrial agriculture, which is an idea worth pursuing as the food system is one important area where sustainable alternatives must to be explored (DuPuis & Goodman, 2005, p.359).

2.2 COMMUNITY FOOD SECURITY

Food security, at a minimum, includes "the ready availability of nutritionally adequate and safe foods and the assured ability to acquire acceptable foods in socially acceptable ways" (Allen, 2004, pp.42-43). Contemporary approaches to food security in North America surfaced in the post-war era but in particular during the world food crisis of the early 1970s. At that time, food security was largely defined at the global or national level, with government aid and social assistance programs providing a safety net for the poor (Riches, 2002; Lezberg, 2003). Throughout the 1980s, as governments began to devolve from their welfare state responsibilities, the emergency food system grew in response to rising domestic hunger and poverty at the individual and household level. During this time, charitable models spawned new anti-hunger programs such as food banks and other emergency food assistance programs meant to alleviate chronic hunger by providing donated foodstuffs to low-income families (Riches, 2002; Lezberg, 2003). But with emergency food programs now well into their third decade of existence, many food security advocates question whether these programs (and government social assistance programs) are sufficient enough to achieve long-term food security (Lezberg, 2003).

Community food security (CFS) emerged in the early 1990s and is the most recent iteration of the food security concept (Allen, 2004). Critical of anti-hunger approaches as fragmented, short-term, and lacking a holistic vision, CFS seeks to be more comprehensive in scope by working at the community level to build capacity throughout the food system (Allen, 1999). CFS also makes more explicit connections between food security and sustainable food systems and places an added emphasis on sustainable local

food sources. In contrast, anti-hunger approaches generally ask few questions about where donated food was grown or how it was produced (Winne et al., 1997). CFS also emphasises food self-reliance and individual empowerment as opposed to food entitlement as a way to create long-term solutions (Allen, 2004). In Table 2, Allen (2004) outlines some of the principle elements of CFS relative to traditional anti-hunger approaches.

Community planning for food security is a relatively new idea gaining momentum in planning circles in North America. The most common community food planning tool discussed in the literature is the community food assessment (Winne et al., 1997). Community food assessments are widely acknowledged as a means to help people develop a much more comprehensive and personal understanding of how the food system works (Allen, 2004; Pothukuchi, 2004; Campbell, 2004). According to Winne et al. (1997), carrying out a community food assessment requires attention to three basic components: partnership, project and policy development. Using this methodology, these assessments are generally designed to provide pertinent information for assisting communities in building partnerships that connect diverse stakeholders from throughout the food system; in developing projects that work to achieve CFS goals; and in advocating for policies that break down barriers and seize opportunities to successfully implement CFS strategies (Winne et al., 1997).

While CFS may hold tremendous potential to link food and community, some are concerned about the ability of community-level approaches to fully address issues of social justice. American academic Patricia Allen (1999; 2004) has been one of the most vocal critics of CFS. She argues that community efforts to achieve food security, while

Table 2: Comparison of Anti-Hunger and Community Food Security Concepts

	Anti-Hunger	Community Food Security
Model	Treatment; social welfare	Community development
Unit of Analysis	Individual/household	Community
Time Frame	Short-term	Long-term
Goals	Social equity	Individual empowerment
Conduit System	Emergency food, federal food programs	Marketplace, self-production, local/regional food
Actors	Social and human services departments	Community organizations
Agriculture Relationship	Commodities; cheap food prices	Support local agriculture; Fair prices for farmers
Policy	Sustain food resources	Community planning

Source: Allen, 2004

important, can only complement but not substitute the need for a strong government safety net. Allen fears that too much emphasis on community approaches can create inequitable outcomes that might "unwittingly recreating a two-tiered food system differentiated by class" (1999, p.126).[15] Indeed, the term community like local is not neutral. Allen explains that we should not confuse community interest with public interest:

> [c]ommunity has no practical meaning independent of the real people who construct it and act in it. What community means is mediated by income, wealth, property ownership, occupation, gender, ethnicity, age, and many other personal characteristics. Geographic proximity does not overcome social and economic distance, and may increase it" (1999, p.120).

Moreover, Allen believes a CFS approach cannot work in isolation since emphasizing low-income food access and the need to develop sustainable food systems in a single approach may not be compatible. Without public subsidy, she sees a serious

[15] Allen (1999) notes a lack of diversity in the CFS movement, observing that most participants tend to be white, upper-middle class and highly educated individuals.

contradiction "between making food affordable and providing a decent return for the farm unit" (p.125).

As Allen (1999) alludes to above, the food system is full of conflicts that inevitably lead to various outcomes. Food system stakeholders; whether a grocery store retailer, a fertilizer supplier, an organic farmer or a soup kitchen coordinator, will all have particular interests, sources of power and ideas about best practices that can contribute to these conflicts. In order to ease stakeholder tensions, the literature suggests the practice of food democracy may be one way of finding just solutions;

> [f]ood democracy seeks to expose and challenge the anti-democratic forces of control, and claims the rights and responsibilities of citizens to participate in decision-making. Food democracy ideally means that all members of an agro-food system have equal and effective opportunities for participation in shaping that system, as well as knowledge about the relevant alternative ways of designing and operating the system (Hassanein, 2003, p.83).

For many food security advocates including well-known authors Frances Moore Lappé and her daughter Anna, a faltering of democracy is to blame for the food insecurities that exist in the world. Lappé and Lappé (2003) argue that what is needed is a 'living democracy' where everyone has a say in their own futures including decisions about the most fundamental aspects of the food system: land, seeds, capital and trade. The fact that the world is abundant with food and yet people go hungry is proof, they say, that living democracy has not yet been realized.

So how can people and communities recover from this deficit of democracy? Gail Feenstra (2002), in her reflections on outreach and education efforts with community-based food system projects in California, argues that four kinds of community space are necessary:

- **Social space:** is where "social capital" is created. This usually means opportunities for diverse people in communities to meet and talk, listen to each other's concerns and views, plan together, problem-solve, question, and learn to speak a common language.

- **Political space:** is where efforts to create food system pilot projects or models become institutionalized through policy. This can include policymaking at various levels, from school districts or universities instigating farm-to-institution programs, to governments enacting legislation to protect farmland from development.

- **Intellectual space:** is where a vision of a sustainable food system is conceptualized and articulated within a local context. Bringing together multiple disciplines and community perspectives in creating a vision helps to ground a project, especially when personnel, economic, policy, or other changes occur.

- **Economic space:** is where attempts are made to find ways to recirculate local financial capital within the local economy. It can also mean exploring outside sources to fund projects.

As public participation is crucial to creating and maintaining each of these spaces, they may also serve as forums where food democracy can be learned and practiced and new partnerships forged (Feenstra, 2002). Indeed, as Hassanein (2003) explains, recognizing food democracy as a pragmatic method for bridging stakeholder interests may increase citizen power and enable communities to effect change in ways they could not have achieved on their own.

2.3 PLANNING AND THE FOOD SYSTEM

In the context of urban systems such as transportation, land use, housing, employment, and the environment, the food system has received very little attention in the planning literature and in practice. In their influential study on food and the urban agenda, Pothukuchi and Kaufman (1999) discover four reasons why the food system is a less visible system in the minds of urban decision-makers and residents:

- the average urbanite takes the food system for granted;

- 'the urban' has become synonymous with non-agricultural activities;
- technological advancements in agriculture, transportation, and processing have allowed food to be grown and shipped from increasingly distant places, and;
- public policy has reinforced the urban-rural dichotomy.

In another study by Pothukuchi and Kaufman (2000), a review of planning texts and journals revealed only limited concern for food issues.[16] They supplemented these findings with a survey of twenty-two city planning agencies in the United States to explore the extent of involvement in food system planning. Not surprisingly, they found these agencies had little involvement with the food system. At best, the interest of these agencies were limited to regular land use responsibilities as they related to the location of supermarkets, grocery stores, fast food outlets, and food wholesaling. Yet even in these situations, less than half of the reporting agencies said their involvement was significant.

Food is very much an urban issue and there are many reasons why planners should devote more attention to the food system. To make this connection, Pothukuchi and Kaufman (1999) observe that the food system affects the local economy, the environment, public health, and the quality of neighbourhoods in multiple ways:

- **Local economy:** food establishments are an important part of the economy and they usually employ many city residents. Households spend anywhere from 10 to 40 percent of their income on food.
- **Environment:** preserving agricultural land and creating more opportunities for local farmers to sell their food in urban areas can contribute to reducing urban sprawl. Food waste represents a significant proportion of the urban wastebasket. Chemical fertilizers and pesticides used on local farms can find their way into urban water systems.

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[16] Pothukuchi and Kaufman (2000) recognize Ebenezer Howard's Garden City concept to be the best example of systematic attention to the food system. He considered food production, distribution, collective preparation and consumption, and waste recycling as integral to the city. These authors also note the contribution of some feminist planners who have examined food links with community because of women's roles in household food procurement, preparation, and service.

- **Public health:** food related health problems associated with different segments of the population, impact community health.

- **Quality of neighbourhoods:** when affordable housing is in short supply, lower-income residents may be at greater risk of hunger since paying rent tends to take priority over purchasing food. Many low-income residents rely on the emergency food system to meet their food needs. The number of grocery stores in lower-income neighbourhoods are sometimes inadequate to serve the population (e.g. food deserts).

While there are many actors and organizations involved in the urban food system including anti-hunger organizations, public boards of health, alternative food system advocates, food store and restaurant owners, their efforts tend to be uncoordinated and piecemeal (Pothukuchi and Kaufman, 1999). With the emergence of the CFS movement and its community development approach for creating more sustainable and food secure communities, planners may now have a way to approach food issues in a more comprehensive manner.

The literature suggests a number of ways planners can contribute to the goals of CFS.[17] As planners are concerned with normative objectives such as sustainable communities, CFS could be part of their toolbox of strategies to help communities become more sustainable and food secure (Pothukuchi, 2004). For example, as planners are well suited to dealing with stakeholder interests, both shared and divergent, they can help build partnerships that support food system localization. According to Pothukuchi (2004) planners "are expected to understand the role of rhetoric in communicating evidence and proofs and to decode and moderate the politics of information" (p.361). As previously discussed, the meaning of local is highly contestable and stakeholders will often have competing interests and values as well as differential access to power and resources (Born & Purrcell, 2006; Pothukuchi, 2004). Therefore, the involvement of

[17] For a comprehensive overview, see Pothukuchi (2004).

planners as potential 'bridgers' of stakeholder interests, could be crucial to advancing localization efforts. However, as Campbell (2004) warns, planners who begin with binary conceptualizations that envision the local as 'good' and the global as 'bad', will find it difficult to bring diverse stakeholders to the table or even find areas where to begin.

2.4 FARM-TO-UNIVERSITY PROGRAMS

The literature, while limited to a few academic studies and master's theses as well as on-line informational guides, clearly places farm-to-university programs squarely within efforts to develop more local and sustainable food systems.

Since the late 1970s, the operation of food services at most universities (and public institutions) in North America have increasingly come under the control of three large food service companies: Compass Group (parent company of Chartwells), Sodexho and Aramark. The size of these companies gives them tremendous buying power and a cost advantage that most self-managed food service operations cannot match (Beckett, 2006).[18] Under these outsourced arrangement, institutional markets have become highly integrated into the modern food system. Kitchens at many institutions are relatively low-prep and more fast food than fresh food-focused (Beckett, 2006). Even for some self-managed operations, relying on convenient, standardized and inexpensive food sourced through large wholesalers and distributors has become common practice (Beckett, 2006).

Farm-to-university programs were first established in the United States in the late 1980s. Since then, the idea has spread to an estimated 130 colleges and universities

[18] According to Fortune Magazine's Global 500 list, Compass Group ranked as the world's largest food service company with revenues toping 22 billion dollars in 2006 (2007). The company currently operates in 64 countries and employs over 400,000 people, making it the 13th largest employer in the world (Compass Group, 2007). Chartwells is a subsidiary of Compass Group that services the educational food service market in Canada. Chartwells is Concordia University's current food service provider.

throughout North America including the University of Toronto and the University of British Columbia, with most programs beginning after 2001 (Community Food Security Coalition [CFSC], 2008). Proponents of farm-to-university say that these programs allow universities the opportunity to "re-examine their relationship with food, where it comes from, how it is prepared, who prepares it, and at what cost" (Beckett, 2006). They commonly assert that the university can be both an important market for local farmers and also an important site for learning about responsible food choices and food democracy (Beckett, 2006, Murray, 2005). Table 3 provides a summary of the commonly identified benefits as well as barriers to farm-to-university development from the literature.

The most that can be said about current farm-to-university programs as a whole is that they vary considerably. The development of these programs is largely dependent on local context including the structure of food services at the institution and the level of local food system development in the region (Beckett, 2006; Murray, 2005; Johnson & Stevenson, 1998). According to the literature, programs exist at both large public and small private universities (Murray, 2005). The stakeholder group(s) responsible for initiating and maintaining these programs include self-managed and contracted food service providers, university administration and staff, faculty and students, local farmers, and community food and farming organizations (Murray, 2005). While fresh produce items are the most commonly purchased items, several programs source local meat and dairy products as well (Murray, 2005). Most programs reported that local food cost more than conventional food but this was not always the case for every food item (Murray, 2005). Depending on a number of factors, programs use various models to procure foods

Table 3: Potential Benefits and Barriers to Farm-to-University Programs

Benefits	Barriers
• Improve access to local food • Freshness and better nutrition • Educational opportunities • Public relations • Reduce environmental impact • Support the local economy • Support local farmers by providing an additional source of income and access to a relatively secure market • Strengthen local food systems and a more sustainable agriculture • Regaining community control of local food systems	• Institutional need for large, consistent and safe food supply • Lack of adequate facilities/labour for processing fresh produce • Lack of seasonal availability/mismatch between growing season and school year • Logistics of locating, ordering, paying and delivering food from local growers • Higher price of local sustainable food • Student food preferences • Vendor contracts/exclusive bidding requirements

Sources: Murray (2005), Johnson & Stevenson (1998), Allen (2004), Vallianatos et al. (2004)

from local farms. Some models allow for direct connections with the farmer while others are less direct and include intermediaries such as distributors in the procurement process (Pirog, 2002; Johnson & Stevenson, 1998; Murray, 2005; Beckett, 2006). Farm-to-university programs also engage with both conventional and organic agriculture and with farms of various sizes and types (Johnson & Stevenson, 1998; Murray, 2005).

Farm-to-university programs at the University of Toronto and the University of British Columbia exemplify the kinds of differences that exist between programs. The program at the University of Toronto is a result of a partnership between the institution and Local Food Plus; a non-profit organization that promotes the development of local sustainable food systems by certifying local farms based on sustainable farming practices then linking them with institutional food buyers (Local Food Plus, 2008).[19] In 2006, when the University selected Aramark as its food service provider, the contract required Aramark to purchase a set portion of its food through Local Food Plus' farm network.

[19] See Local Food Plus' website for information pertaining to farmer certification standards (http://www.localfoodplus.ca)

Local Food Plus facilitates discussions between farmers and institutional food buyers and allows them to determine pricing schemes that work best (Local Food Plus, 2008). The program at the University of British Columbia is quite different. The University has a self-managed food service operation (as opposed to contract) and local food is procured directly from the University's 40 hectare on-campus organic farm. The farm is operated by the Faculty of Land and Food Systems and the farm-to-university program is well integrated into the faculty's curriculum (University of British Columbia Food System Project, 2007). In addition to selling to food services, the farm also offers a CSA box program and an on-farm market to members of the campus community (UBC Farm, 2008).

Determining how well farm-to-university programs actually address food system issues and benefit university communities and local farmers has been difficult to establish. Most of these programs are either at the design or pilot stage and no formal evaluations have properly assessed them (Vallianatos et al., 2004). Given that programs differ from university to university, it is highly likely that they produce a wide range of outcomes. Evidence from the farm-to-school literature however, does suggest that programs at elementary schools are succeeding in a number of areas. Evaluations of two California school district salad bar programs revealed increased student participation rates in school food programs as well as modest revenue increases for participating farmers. One of the school boards conducted a food-waste audit and found that the students who selected the salad bar ate 74 percent of their food by weight, while students who selected a hot cafeteria meal ate only 49 percent (Vallianatos et al. 2004).

There have been few criticisms of farm-to-university programs in the literature. A 2006 masters thesis by Jessica Beckett, however, raises some important questions about their significance and place in alternative food movements. According to Beckett, the majority of farm-to-university programs are textbook examples of corporate green washing. Her research shows a great drive by corporate food service companies to incorporate local food purchasing and marketing into their operations.[20] The problem, she says, is that these companies opt for the easiest approach possible. This means they use their primary distributors to purchase local foods as this involves the least amount of change. Beckett questions whether such an approach can really benefit farmers and is doubtful corporate food service companies would be interested in creating a more sustainable food supply network from the bottom-up. Until they do, she says "[c]ompanies are primarily concerned with filling their corporate responsibility duties and appearing green rather than realizing the full potential of bioregional initiatives" (p.71). The findings from this research are highly significant since, as mentioned, corporate food service companies have a stranglehold on the university food service market in North America.

2.4.1 Campus Sustainability Initiatives

Farm-to-university programs are one of many campus sustainability initiatives taking root at institutions across North America. Campus sustainability initiatives such as farm-to-university, sustainable transportation, and waste disposal programs can be understood in the context of sustainable community development. Generally speaking, sustainable community development advocates for an approach that balances economic

[20] In a survey of 130 farm-to-university programs in the United States, Beckett (2006) found that 65 percent of programs were initiated by either the food service personnel on-site or by the food service company through head office.

objectives with environmental concerns in ways that strengthen community self-reliance and enhance social relations (Roseland, 2005; Bridger and Luloff, 1999; Hancock, 1997). Sustainable community development has been defined as:

> [t]he ability of a community to utilize its natural, human, and technological resources to ensure that all members of present and future generations can attain a high degree of health and well-being, economic security, and a say in shaping their future while maintaining the integrity of the ecological systems on which all life and production depends (Klein, 1995 in Bridger and Luloff, 1999, p. 4).

In the context of universities as sustainable communities, Cortese (2003) explains, "[t]he university is a microcosm of the larger community. Therefore, the manner in which it carries out its daily activities is an important demonstration of ways to achieve environmentally responsible living and to reinforce desired values and behaviours in the whole community" (p.19). Shriberg (2002) identified several rationales for promoting sustainability at institutions of higher learning as summarized below:

- universities have the expertise, leverage, and resources to make significant contributions to sustainable community development;
- universities have a special place in society and therefore have a social/ethical obligation to act in a sustainable manner;
- universities are in a unique position to act as models of behaviour for their students and the rest of society;
- universities often reinforce society's concept of a division between humans and nature, and;
- universities could gain image benefits from adopting sustainable practices.

While these may not speak directly to farm-to-university programs per se, they do summarize a number of important reasons why universities should incorporate sustainable practices into their long-term planning.

2.5 CONCLUSION

A review of the literature reveals that localism, particularly a reflexive and diverse localism, can be an effective concept for envisioning broad alternatives to the current global economic development model. A more focused vision of localism can be found in the literature on local food systems. Emphasising community, sustainability, and social justice, the CFS literature adds depth and direction to the local food systems debate by articulating an approach from which localization might be preferred. The planning literature on food systems tells us that this area is relatively new and unexplored. Community development models such as CFS are beginning to interest at least a few planners however, very little exists presenting community-specific cases. With regards to farm-to-university programs, the literature demonstrates what little we know about them and if their potential benefits are being realized. While a number of general trends have been identified, planning for farm-to-university requires community-specific information if partnerships and policies are to develop. This thesis contributes to the lack of planning studies by exploring university and community stakeholder interests and the possibilities for farm-to-university program development at Concordia University in Montreal, Quebec.

3.0 METHODOLOGY

As an initial assessment of the possibilities for farm-to-university development at Concordia University, this study set out to collect and analyze community-specific data with the purpose of identifying stakeholder interests as well as potential barriers and opportunities. The overall goal was to recommend ways to facilitate further action and research. The primary research question was: *what barriers, opportunities and potential strategies exist for farm-to-university development at large public university?* To help answer the question, this study proposed three research objectives:

1. to identify stakeholder interests towards farm-to-university;
2. to identify barriers and opportunities to farm-to-university development and;
3. to identify potential strategies for supporting farm-to-university development.

These objectives were explored from a community food security (CFS) perspective. The following sections outline the research approach, design and methods for data collection and analysis used in this study. The final sections look at methodological limitations.

3.1 RESEARCH APPROACH

3.1.1 Community Food Assessment

As community food planning research, this study served as a community food assessment. Community food assessments are regarded as an important 'first step' in planning for CFS. Like other types of community assessments, community food assessments are planning tools designed to gather and disseminate information on community food issues with the intention of assisting community leaders and agencies to form appropriate strategies to improve their localities (Pothukuchi, 2004).[21] Planning

[21] While community assessments have informed traditional planning activities such as land-use planning for some time, the idea had never been applied to food planning until recently.

for CFS will always have strategic information needs that community food assessments can be designed to provide.

3.1.2 Exploratory Research

This study was considered exploratory research. Exploratory research aims to gain familiarity or new insights into a phenomenon and its dynamics (Palys, 1997). This approach was selected for two reasons. First, due to a lack of information on community food planning and farm-to-university in the literature, this topic is a fairly unexplored area, particularly where these two subjects converge. Second, no other Concordia University-based study has examined the concept of farm-to-university and therefore, no baseline data currently exists.[22] An exploratory approach is not uncommon in community food assessments. Pothukuchi (2004) notes in her review of nine community food assessments that all studies were somewhat exploratory in nature. Some assessments focused on a broad range of possible connections between food and community, while others were more focused on particular issues in their exploration. It may be best to think of this study as somewhere in between these two extremes. It was broad in that it has multiple objectives, but focused in that only the farm-to-university concept was considered as a means to connect food and community.

3.1.3 Mixed-Method Research

A mixed-method research approach was incorporated into the design of this study. It was decided that using qualitative and quantitative data could address the research objectives more completely compared to using a single data type or approach. Adopting

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[22] One notable exception is the 2003 and 2006 Concordia Campus Sustainability Assessment carried out by the student-run Sustainable Concordia group. In each of these assessments, food is discussed, however, local food purchasing from more sustainable food sources - a central element of farm-to-university - has not been explored in any detail.

mixed-methods into research is common practice in planning, as planners often use a variety of data sources and methods to answer questions posed in multiple categories (Pothukuchi, 2004). Using mixed-methods also facilitates triangulation providing stronger arguments through the convergence of findings from multiple methods.

3.2 RESEARCH DESIGN

3.2.1 Community Food Security Framework

This study used a CFS framework to guide the research. The framework was based on a methodology first introduced by Winne et al. (1997) and has three components: partnership, project, and policy development. Table 4 summarizes the research design and illustrates how the research objectives, the issues examined along with the methods of data collection and analysis integrate into the framework structure.

3.3 DATA COLLECTION

3.3.1 Semi-Structured Interviews

Semi-structured interviews were the primary means of data collection used in this study. This type of interview is organized but flexible and enables respondents to relate knowledge, experiences and attitudes that are relevant to the issues in a natural and free manner (Dunn, 2000). Interviewees were all asked about their interests in the farm-to-university concept as well as any potential barriers and opportunities to moving forward.

Interview participants were identified using a mix of purposeful and snowball sampling. Since CFS encourages partnerships among stakeholders from all areas of the food system, a list of possible participants included farmers; intermediaries such as

Table 4: Research Design Matrix

	Partnership	Project	Policy
Research Objectives	**1. To identify stakeholder interests towards farm-to-university.**	**2. To identify opportunities and barriers to farm-to-university development.**	**3. To identify potential strategies for supporting farm-to-university development.**
Issues Examined	a) What are the perceived benefits (or limitations) of a prospective farm-to-university program? b) What goals would a farm-to-university program address for the stakeholders, if any?	a) What existing policies or initiatives would support a farm-to-university program? b) What level of community and institutional capacity exists for farm-to-university? c) In what manner is Chartwells' food service operation structured? How does it purchase fresh produce? d) What are the fresh produce purchasing patterns of Concordia University? How might they help or hinder local food procurement? e) To what extent are members of the Concordia University community interested in local food and would they be willing to pay more for it?	a) How could the identified barriers be overcome? b) How could the identified opportunities be utilized? c) What strategies have been used elsewhere?
Data Sources	• Semi-structured interviews.	• Semi-structured interviews. • Chartwells produce purchasing data. • Surveys with Concordia University students.	• Semi-structured interviews. • Chartwells produce purchasing data. • Surveys with Concordia University students.
Data Analysis	• Qualitative analysis of interview transcripts by coding ideas and building themes.	• Quantitative analysis food purchasing data by tabulation and calculation of results. • Qualitative analysis of interview transcripts by coding ideas and building themes. • Quantitative and qualitative coding of surveys.	• Quantitative analysis food purchasing data by tabulation and calculation of results. • Qualitative analysis of interview transcripts by coding ideas and building themes. • Quantitative and qualitative coding of surveys.

processors and distributors; Concordia University students, faculty, administration and staff; Chartwells food service personnel; organizations for local food, sustainable agriculture and CFS; and finally local, provincial and federal government agencies with interests in food, agriculture, health and the environment. While it was beyond the scope of this study to include participants from each of these stakeholder groups, this study engaged with four groups that were considered relevant to this study: institutional actors, food services, local food advocacy and local farmers.

As a graduate student at Concordia University, it made sense to start participant recruiting on campus. From the start, key informants representing food and sustainability interests were targeted. In total, three participants were identified. Representing University food interests, the Director of Auxiliary Services was asked to participate in this study. As the head administrator for the provision of food services, the Director is highly aware of the food situation on campus. This person oversees the Auxiliary Services Department whose responsibilities include selecting a food contractor and monitoring the operation. Representing sustainability interests were two staff members; the Environmental Coordinator and the Sustainability Coordinator. Both have experience planning and implementing numerous initiatives on campus and are used to working with stakeholders both inside and outside the University.

Given that Chartwells holds the food service contract at Concordia, at least until 2015 when it expires, their participation was considered crucial to a discussion about the University sourcing and integrating local food from more sustainable sources. As such, the head of the Concordia operation, the Senior Food Service Director was recruited. This person supervises the entire operation, including purchasing, and works with both

the Compass Group head office on the corporate side and the Director of Auxiliary Service on the University side.

Outside the University, Équiterre was approached to participate in the study. As mentioned in the Introduction chapter, Équiterre is a non-profit organization based in Montreal, Quebec, that promotes socially and environmentally responsible choices. Équiterre's Ecological Agriculture program has been at the forefront of local food system development in Quebec for well over a decade. Representing Équiterre is the Project Coordinator. The Coordinator is involved in all of the local food programs Équiterre manages and is highly familiar with food and farming issues in the province.

As local farmers are essential to a farm-to-university program, their opinions were sought in this study. With the help of the Project Coordinator, eight potential participants were identified through Équiterre's community supported agriculture (CSA) farm network. Farms in this network tend to be relatively small and all use organic farming methods. Through telephone and email correspondence, four farmers from the Montreal and Monteregie regions agreed to participate in this study. However, because each individual farm is different, the four farmers interviewed were not meant to be representative of all farmers or even all small organic farmers in Quebec. The participation of these farmers is meant to add a farmers' perspective to the discussion. To get a better sense of the types of farms these four farmers operate, Table 5 provides some pertinent information gathered during the interviews.

In total, nine individuals agreed to be interviewed for this study (to see the interview questions, see Appendix B). Table 6 outlines each of the stakeholder groups,

Table 5: Characteristics of Participating Farms

Farm	Size	Production	Farming Systems	Markets Served	Notes
Name: Ferme Cadet-Roussel **Region:** Monteregie **Location:** 730, Rang Chartier, Mont-Saint-Grégoire Quebec J0J 1K0	170 acres 20 acres for vegetable production	Large variety of vegetables Field crops including barely, oats, wheat, hemp, buckwheat, soya, corn and sunflowers Livestock include Jersey cows, pigs and chickens	Certified Organic (Eco Cert) Biodynamic (Demeter Certified)	Primarily CSA but also small grocery stores including Le Frigo Vert and some restaurants. Experience selling to a local secondary school. Sold to 3 day cares before budget cuts. Grains sold mostly to local processors	The farm was the first to join Equiterre's CSA program in 1995. Presently, the farm is working with 'Protec-Terre' to create a land trust to protect the farm and its sustainable mission for future generations. There are also plans to start an on-farm market.
Name: L'Ecole de la Mere Nature **Region:** Monteregie **Location:** 6360, route de Rougemont Saint-Jean-Baptiste, Quebec J0L 2B0	45 acres (1/3 orchard, 1/3 buildings, 1/3 shared space with vegetable production)	Large variety of vegetables Fruits including 14 varieties of apples, pears, plums, hazelnut, grapes, raspberries Produces apple juice and apple cider vinegar off-farm	Certified Organic (Eco Cert) Farm practices permaculture	Primarily CSA On-farm (school program, festivals) Sells 2nd quality apples to local processor, Jodoin to be pressed into organic apple juice Plans to sell to 2 day cares in the near future	The farm is unique in its focus on education. Programs for school children are provided and an estimated 10,000 children visit the farm each year. The farm also acts as a place where permaculture is taught and learned.
Name: Ferme du Zephyr **Region:** Montreal **Location:** 123, chemin Senneville Senneville, Quebec H9X 1B9	16 acres	Large variety of vegetables (at least 40 varieties)	Certified Organic (Eco Cert)	Primarily CSA Small local grocery stores including The Real Green Grocer (NDG) and PA (Parc Ave) Some restaurants	The farmer has always rented farmland and this is his 3rd location. He once had a CSA drop-off point at le Frigo Vert and is a former Concordia University graduate student. He is well-known for his arugula and heirloom tomatoes.
Name: La Ferme du Senneville **Region:** Montreal **Location:** 118, chemin Senneville Senneville, Quebec H9X 1B9	60 acres in total with 6 acres in current production	Large variety of vegetables (approx. 20)	Certified Organic (Eco Cert)	Primarily CSA Ste Anne de Bellevue Farmers' Market , A small local grocery store Some restaurants	Part owner (others owners are farmers' siblings) of what is arguably the largest piece of farmland on the Island of Montreal. Land has been in the family for over 100 years. Farmer hopes to create long-lasting community interest in the farm to ensure protection of the land from development.

Table 6: Semi-Structured Interviews

STAKEHOLDER GROUP	INDIVIDUALS INVOLVED	AFFILIATION	ISSUES EXAMINED*
Institutional Actors (Concordia University)	Director of Auxiliary Services Environmental Coordinator -Sustainability Coordinator	Auxiliary Services (Administration) Environmental Health and Safety (Staff)	1. (a), (b) 2. (a), (b) 3. (a), (b)
Chartwells (Contracted Food Service Provider)	Senior Food Service Director	Chartwells/Compass Group Canada	1. (a), (b) 2. (a), (c) 3. (a), (b)
Local Food Advocacy	Project Coordinator	Équiterre (Ecological Agriculture Program)	1. (a), (b) 2. (a), (b) 3. (a), (b), (c)
Local Organic Farmers	Farmer #1 Farmer #2 Farmer #3 Farmer #4	Ferme Cadet-Roussel L'Ecole de la Mere Nature Ferme du Zephyr La Ferme du Senneville	1. (a), (b) 2. (a), (b) 3. (a), (b)

*Refer to Research Design Matrix (Table 4) for full description of issues examined.

the individuals included, their affiliation and the issues examined during the interviews. All interviews were conducted in person between May and August 2006. Interview data was collected through audio recording as well as written notes. Each participant was sent a list of interview questions and a copy of a consent form prior to the interview.

3.3.2 Student Surveys

The survey portion of this study was intended to complement the interview data by examining student opinions and their level of interest and knowledge about local food and related concepts. Since students are the primary consumers of food on campus, this

study felt it was important to gain some initial insights from their perspective. Content for the questionnaire was based primarily on a review of the literature on local food systems and farm-to-university programs. This included some of the barriers identified in the Literature Review, in particular, the potentially higher price of local sustainable food. The survey questions covered five main areas:

- how food choices on campus are made;
- opinions towards agriculture, local and seasonal food, and food and sustainability;
- the meanings attributed to the terms 'locally grown food' and 'sustainable food systems' and ideas such as knowing where ones food is grown and how it was produced;
- knowledge on the availability of local food;
- willingness to pay more for local sustainable food.

A number of different techniques were used to gather responses including five-point Likert scales and open-ended questions. This facilitated the generation of both quantitative and qualitative responses. To refine the survey, feedback was sought from the Director of Auxiliary Services, the Environmental Coordinator and Sustainability Coordinator at Concordia University. Each of these individuals had previous experience surveying students on food and sustainability issues. The Project Coordinator of the Ecological Agriculture program at Équiterre was also asked to comment on the content of the survey. Finally, the survey was pre-tested with students prior to being finalized. In total, 30 survey responses provided feedback which was incorporated into the final version (see Appendix C for survey questions). Surveys were carried out during late March and early April, 2006.

Student participants were recruited in person from food service areas at both campuses. Surveys were administered at the Sir George Williams (SGW) campus in both the Hall Building (main cafeteria on 7th floor) and Library Building (food service area on main floor) and at the Loyola campus in the Campus Centre dining area. These areas were chosen to better target students who purchase food on campus; although this was not a requirement to participate in this survey. I used purposeful sampling to select participants. This meant that I made a conscious effort to obtain an even number of male and female responses, and an even number of responses from students on both campuses. Potential student participants were given an oral explanation of the consent conditions prior to starting the survey. Participants were also made aware of a consent slip form stapled to the front of each survey in case they wanted to review this information on their own. The survey took most participants approximately 10 minutes to complete.

3.3.3 Food Purchasing Data and Quebec Produce Availability Data

Data on food purchasing provided an opportunity to explore the buying patterns of Chartwells. More importantly, the data allowed us to evaluate the potential for procuring Quebec-grown food by getting a better sense of the food purchasing model employed by the company. Quantitative data on food purchasing also served to supplement and complement the qualitative data collected during an interview with the Senior Food Service Director of Chartwells.

Only data pertaining to the purchase of produce, defined here as fresh fruits and vegetables, was collected. This decision was made for a number of reasons;

- results from a previous study found produce to be the most commonly purchased local foods among existing programs in North America (Murray, 2004);

- produce lends itself well to the idea of eating seasonal foods. Produce may also allow for more direct connections between producers and consumers, since fruits and vegetables are unprocessed and can be more easily traced to a single producer;

- a focus on produce helped keep this study compatible with at least one of the goals of farm-to-university, namely the promotion of fresh, healthy and nutritious foods.

Produce purchasing data was requested through the Senior Food Service Director in early spring 2006. Paper invoices were photocopied in the main Chartwells office at the Sir George Williams (SGW) campus in August 2006. Data was collected for purchases made on both campuses for the period August 2005 to April 2006. This period was selected due to the availability of the data and because these dates closely correspond with the fall and winter school terms; a time when the majority of students are in school and food services is most active.[23] The invoices displayed information on the date, time and place of delivery; the name and variety of each produce item; the place of origin for each produce item; the purchase price and quantity for each produce item; and whether the produce item was 'price fixed', meaning the item's price was static and did not fluctuate.

Adding further depth to the produce purchasing data, data on the availability of Quebec-grown produce was also collected. The majority of this data was obtained by contacting the *Fédération des producteurs maraîchers du Québec*; a sub-group affiliated with the *L'Union des producteurs agricoles* (UPA) which represents all farmers in the province. The data was received in spreadsheet format and in the form of a colour-coded chart depicting the availability, by month, of produce grown in Quebec. Unfortunately,

[23] Chartwells effectively closes its operations during the summer term. While the fall term does not officially start until September, August can be a busy month for Food Services as there are many catered events to mark the beginning of new school year.

these data did not cover all the produce items and/or varieties purchased by Chartwells. To add the availability of missing items, additional data was gathered from the websites of the *Association des jardiniers maraîchers du Québec* and the *Fédération des producteurs de pommes du Québec*. Data from these sources were added to the original chart and organized by month (see Appendix D).

3.4 DATA ANALYSIS

3.4.1 Stakeholder Analysis

Stakeholder analysis is a tool used by planners for generating knowledge about actors (individuals or organizations) including their behaviour, intentions, interrelationships and interests. In addition to identifying the various characteristics of stakeholders, this method is also useful for assessing their position, level of influence and the resources they bring to the development process (Varvasovszky & Brugha, 2000). Quite often planners will use stakeholder analysis at the beginning of the development process to evaluate the complexities of an emerging issue (Campbell, 2004).

Stakeholder analysis was the primary means of analyzing the findings from the interviews as well as the student surveys and produce purchasing data. Given that this study served as a community food assessment and used a CFS framework to guide the research, the primary focus of the stakeholder analysis was on partnership, project and policy development. In partnership building, the analysis examined stakeholder interests and if there were any shared (or divergent) interests that could potentially drive (or discourage) future partnerships. The most obvious partnership required to facilitate local sustainable food purchasing would need to take place between local farmers and the institution, but others might also be necessary to overcome certain barriers. In terms of

project development, the analysis looked at potential barriers and opportunities as they relate to areas such as existing structures, policies, initiatives and community capacities. As mentioned in the Literature Review chapter, the development of a program depends largely on the structure of the food service operation at the institution and how well developed local food system infrastructures are within the locality. As such, particular attention was paid to see just how compatible the food service operation at Concordia University would be to purchasing local food from more sustainable sources and if the level of local food system development in Quebec is at a stage where it would be possible for local farmers to supply the University with food. Finally, in developing policies that support future partnership building and program development, recommendations were made which centred on how barriers could be overcome and how opportunities could be utilized. To help guide this part of the analysis, examples of strategies used to develop a farm-to-university program at the University of Toronto were included.

3.4.2 Survey Analysis

Data collected from the surveys were organized in two ways. First, quantitative data from the Likert scales were organized in a database. For most questions, descriptive statistics measuring the frequency of responses for each option were calculated. Second, qualitative data from written open-ended questions were inputted into a word document and organized into themes to gain a sense of student opinion and knowledge.

3.4.3 Seasonality and Import Substitution

To organize the purchasing data, all records were inputted into a database. The database was organized by produce item and included the date of purchase, where the item was delivered (SGW or Loyola), produce name (e.g. apples), produce variety (e.g.

Red Delicious), produce type (fruit or vegetable), place of origin; price, if the item was price fixed; and the seasonality of the purchase (in season or not in-season).

The analysis of the purchasing data was primarily based on two classifications. First, each produce item was classified as either local or non-local based on 'origin'. As mentioned earlier, local food was geographically defined as food grown in Quebec. Therefore food originating from outside Quebec was classified as non-local. Second, each produce item was classified as either seasonal or non-seasonal. This was done by cross-referencing the date of purchase for each produce item with the Quebec produce availability data. Using these classifications, it was possible to quantify local and non-local purchases, seasonal and non-seasonal purchases, and seasonal purchases that were either local or non-local. This last point was of particular interest since a seasonal purchase of an item from a non-local source may suggest opportunities for import substitution; a strategy often used in food system localization efforts to substitute a local product for what had previously been imported. Import substitution is one of many strategies that can be used to assess the potential for local food procurement and this study examined to see how appropriate it could be in supporting local sustainable food purchasing.

3.5 DATA LIMITATIONS

There were a number of limitations that arose from this study. Firstly, because of my lack of French language skills, the recruitment of participants was limited. Given that much of Quebec and the agricultural sector in this province are dominated by French-speaking individuals and groups, I was restricted to interviewing English-speaking individuals only. This was an issue when recruiting local organic farmers. Despite this

however, a desirable number of farmer participants were recruited. Secondly, assessing the potential for procuring Quebec produce via an import substitution strategy was limited in the sense that the analysis looked at only current purchasing patterns. The analysis did not consider possible menu or recipe changes that could facilitate the integration of more produce from Quebec. Thirdly, student surveys were not intended to be entirely representative of the larger Concordia University student population. Results and interpretations from these surveys must be considered within this context.

4.0 RESULTS

This chapter presents the findings from this study. The findings were gathered from information provided by the participants during the interviews, survey responses by students on their opinion and level of interest in local food and data on produce purchasing provided by Chartwells. The findings are presented according to method of data collection.

4.1 STAKEHOLDER INTERESTS AND POTENTIAL BARRIERS AND OPPORTUNITIES TO FARM-TO-UNIVERSITY DEVELOPMENT

The following section presents the results from the semi-structured interviews with the participants. Participating stakeholders in this study included institutional actors representing food service and sustainability interests at Concordia University; a representative of Chartwells, Concordia University's food service provider; a local food advocate from the non-governmental organization (NGO) Équiterre and local organic farmers. The stakeholders were asked about their interest in farm-to-university as well as any barriers and opportunities to developing a program, whether real or perceived.

4.1.1 Concordia University

Interests

All participants cited the prospect for new educational opportunities as their main interest. They felt that farm-to-university and the idea of purchasing healthy foods from known local sources, was highly conducive to student learning in the areas of health and sustainability.

The Director of Auxiliary Services is interested in providing healthier food options to students. She believes that the University can be a site for learning about food and nutrition. Although healthier menu options have been offered in the past, they were

met with a lack of enthusiasm among the student body. For this reason, the Director feels that a fresh approach to healthier eating - beyond simple menu changes - is needed to promote positive change.

The Environmental Coordinator and Sustainability Coordinator both expressed interest in creating a rich culture of sustainability at the University. They believe addressing food issues is critical and making connections with nearby farms would integrate well into a vision for a sustainable campus. As everyone can relate to food, they felt a farm-to-university program would be highly inclusive and provide learning opportunities for all members of the Concordia community. Recalling a farm-to-university workshop she attended at the University of Portland, the Sustainability Coordinator was intrigued by the prospect of students meeting farmers, organizing farm tours and having educational material in cafeterias.

All participants expressed an interest in creating and promoting an image of the University as a socially and environmentally responsible partner within the community. They felt a farm-to-university program would support this goal. The Director states that it is in the best interest of the University to purchase responsibly and support the communities in which they operate. Having grown up on her family's farm in Ontario, the Director feels strongly about keeping local farmers in business and believes the University could do more to make connections with rural communities.

Economic feasibility was an interest expressed by all the participants. The Director explained that her responsibility for providing food services on campus is contingent on Chartwells making a profit. All the participants said that a new

sustainability initiative would need to demonstrate that it could be cost-effective in order to be approved by the University.

Barriers

Existing consumer behaviour was identified as a potential barrier by the participants. According to the Director, most students who eat at Chartwells gravitate towards the french fries and pizza. While she imagines that more food conscious students would find local farm produce interesting, she also believes these students probably are not Chartwells' customers given its image as a fast food provider. A farm-to-university program, in her opinion, would need to find innovative ways, such as through education and promotion, to make local foods appealing to a wide audience if such a program is to be a success.

Assuming that purchasing local food in socially and environmentally responsible ways would cost more than conventional food, the participants considered price to be a potential barrier. As students are believed to be more price sensitive than the average consumer, the Environmental Coordinator worried that the higher price for local food could alienate low-income students from fully participating in a program. While she raises a serious equity issue, she felt optimistic that solutions could be found. For instance, she cited student-run food cooperative, Le Frigo Vert, as an example of a campus food provider that has successfully managed to sell generally higher-priced alternative foods to students. The Director also mentioned the issue of cost in relation to student access to local organic food. She suggested that this issue could be dealt with by focusing solely on local food purchasing and making the 'organic' component a secondary priority since organic food is generally more expensive.

The issue of local food availability was also raised as a barrier. The Director was concerned about the potential mismatch between the growing season and the school year. The summer months are a slow period for the University, including food services. She felt a program would have to maximize the use of a small selection of produce, such as root vegetables during the fall and winter months. She questioned whether students would find such foods appealing.

Opportunities

Consistent with their interests in an educational component to a farm-to-university program, the participants identified a number of potential opportunities related to this area. Integrating food education and research as part of a faculty program to support farm-to-university, was an idea heavily favoured by the Director. While she admitted this would be challenging as Concordia has no existing agriculture or nutrition program, she felt it would make a farm-to-university program stronger by allowing the University community to realize more of the potential benefits. Along these lines, the Environmental Coordinator and Sustainability Coordinator suggested current sustainability initiatives including the greenhouse, composting and student-run food alternatives as potential program partners for creating opportunities for collaborative learning and research.

4.1.2 Chartwells

Interests

Being responsive to changing student demands was a major interest expressed by the Senior Food Service Director. He points to recent efforts led by Chartwells to source fairly traded coffee for their operations in Canada as an example of the company's

interest in alternative foods. This move, he says, was largely in response to the campus environment and level of student awareness about food issues. While he admits he does not know much about existing farm-to-university programs, he is aware his company is researching this area.

The Director seemed most interested in the idea of purchasing local produce over other local food products. He explained that his produce supplier, Hector Larivée Inc., is a regional Quebec-based business with extensive connections with growers in the province. As a result, a significant amount of Quebec-grown produce is purchased by Chartwells. The Director states that his personal interest in local food boils down to superior quality, freshness and the potential for cost savings. On this last point, the Director said that in his experience, local produce is often cheaper during peak season compared to the same produce from California or elsewhere.

Barriers

A complex purchasing structure and supply requirements were identified as potential barriers for developing models to connect local farmers with the food service operation. The Director felt the prospect of direct marketing, where farmers sell their produce directly to the purchaser, would be unmanageable and would complicate their one-stop-shop approach to food purchasing. He was also concerned that individual farmers would be unreliable in terms of supply and delivery. His operation, particularly the retail component, requires large orders of produce each day. The Director stated that even if he found farmers capable of meeting his demands, he is not permitted to choose his vendors. The establishment of vendor contracts are a head-office responsibility. He explains that head-office prefers its operators deal with a single large produce supplier in

order to simplify purchasing and keep costs predictable. As a result, the Director favoured a purchasing model that would involve an intermediary, such as a wholesaler, who could deal directly with the farmers and deliver their farm products to his operation.

Opportunities

Opportunities for farm-to-university development cited by the Director related to the integration of local food. In his opinion, catering stood out as the best option. He explained that with retail, menus are predetermined by 'menu cycles' established at the head-office level months in advance. This would make new dishes featuring local foods more difficult to create. With catering, menus and purchasing are more flexible in order to facilitate client food requests. However, local food purchasing through channels other than their primary vendors would still need to be approved by head-office.

4.1.3 Équiterre

Interests

Équiterre is interested in developing local food systems in Quebec through sustainable agriculture and direct bonds between producers and consumers. The organization views the current food system as unsustainable and supports community-based solutions that promote ecologically and socially responsible choices. According to the Project Coordinator, public institutions can play a significant role in this development; both as a market for local organic food and as a partner in building food democracy through participation and education.

Équiterre has a vested interest in creating partnerships between local farmers and public institutions. Since 2002, it has coordinated the *Garderie Bio* which creates direct producer to consumer links between organic farmers and day cares. In a short period of

time, this program has caught the attention of many institutional decision-makers in Quebec. The Coordinator says Équiterre frequently receives inquiries from institutions other than day cares wishing to participate. Bolstered by this growing interest, Équiterre plans to launch a pilot project called *Alimentation Institutionnelle Responsable*, which would allow larger institutions such as schools and hospitals to participate. At the time of this interview, Équiterre was working to secure funding from a number of government agencies to initiate the project.

Barriers

The Coordinator identified two sets of potential barriers; one regarding the development of local food systems and the other focused on the challenges of connecting farms and institutions.

The dominance of the modern food system poses serious barriers to developing local food systems and therefore farm-to-university programs as well. The Coordinator cites international competition, corporate control and agricultural policies focused on export development as barriers. These barriers restrict the amount of resources available to organizations like Équiterre to build the local food infrastructures necessary to support alternatives such as farm-to-university. Ultimately this limits the degree to which they can directly challenge the power of the modern food system. In spite of these challenges, the Coordinator says it is important that her organization connect with individuals and communities and make them a part of a larger movement to reform the food and agricultural system. This she said is crucial to building capacity and eventually overcoming these barriers.

Creating partnerships between institutions and local farmers presents a number of difficulties. For institutions interested in local food purchasing, cost can be a barrier. The Coordinator says the price of local organic produce through their farming network - while generally less than the price of organic produce sold in supermarket stores - is more expensive than conventional produce institutions typically purchase through large-scale distributors. Cost however is not a uniform issue she insists. Cost is very much dependent on what is purchased and the time of year. Cost even depends on what farm the food was grown on. The Coordinator explains that since the realities of each farm are different (some farms may be more established and financially secure than others), what is a fair price to one farmer may not be a fair price to another. In her experience working with day cares where price was identified as an issue, she said many found internal solutions, such as rebudgeting, to mitigate the higher cost. Even amidst provincial funding cuts to child care, the number of participating day cares in the *Garderie Bio* program continues to grow. She attributes this growth to the strength of the alternative food movement and believes the more an institution can identify with the positive social and environmental aspects of purchasing local organic food from nearby farms, the more likely the cost barrier can be overcome.

The prospect of working with larger institutions introduces challenges related to scale. Thus far, Équiterre has used a direct market model, from producer to consumer, as a means to connect farmers with day cares. The Coordinator says this model has worked well since their community supported agriculture (CSA) farming network consists of small farms and the largest participating day care is only 150 kids. To meet the food demands of larger institutions, she says her organization is considering the development

of a few new models. Équiterre may use the *Alimentation Institutionnelle Responsable* pilot project as a means to test new models by working with institutions of different sizes and with different food service arrangements. The Coordinator also mentioned canvassing for interested farmers within their CSA farm network first. If more farmers are interested and required, they would consider other organic farmers and possibility conventional farmers as well.

Opportunities

The Coordinator cites an increase in consumer awareness and demand for alternative foods as a potential opportunity for developing viable markets for farmers at institutions. While she admits that most consumers are apathetic towards food issues, she sees the culture slowly beginning to change. In her opinion, creating systemic change requires educating all communities on making sustainable food choices and involving them in making these options a reality. She felt a university, with its focus on education and research, would be an ideal site where learning about the impacts of the modern food system as well as possible solutions, could engage the community in ways that can affect change.

The *Alimentation Institutionnelle Responsable* pilot project may hold great potential for creating opportunities for large public institutions to start local food purchasing. The Coordinator explains that a major component of the project will be the formation of an advisory committee. This committee will be composed of government representatives, researchers and other stakeholders in agriculture, education and health who will meet regularly to discuss the progress and challenges of planning and administering the pilot projects. By the end of the pilot, the committee will draft

recommendations that she hopes will keep the project moving forward and allow more institutions the opportunity to participate. She suggests Concordia University could focus on getting all stakeholders on campus engaged in the idea in anticipation of future opportunities.

4.1.4 Local Organic Farmers

Interests

The four participating farmers cited community support for their farm as their main interest in farm-to-university. They all agreed that connecting with communities, such as institutions, could have multiple benefits. For instance, Farmer #1 and Farmer #4 mentioned how building community interest in their farm is conducive with their idea for farmland protection. They felt that the more off-farm support a farm has the less likely the land could be sold and be repurposed. The prospect of a farm-to-university program could also open many new opportunities for the exchange of knowledge according to Farmer #2. He currently facilitates both on-farm and off-farm educational programming with school children and believes partnerships with institutions are a good way to generate interest in local food and organic agriculture in general. He feels educational outreach benefits all farmers since it increases the level of consumer consciousness about the connections between food, farming and health. One of the projects he manages creates composting programs at local area schools.

The farmer participants also expressed an interest in seeing more opportunities for farmers to sell locally and more directly to consumers. While these participants primarily rely on the CSA model to distribute their farm products and seem highly satisfied with it, there was a definite sense that additional market opportunities would be welcomed.

Farmer #2 commented that farm-to-university could offer local farmers an opportunity to diversify their income sources. Multiple streams of income make farmers less prone to financial risk which also contributes to a viable and sustainable farm. Referring to her neighbours who operate conventional farms, Farmer #1 felt that opening university markets could help these farmers make the transition to organic. She explained that as large purchasers, universities could provide the market and the motivation farmers need to confidently make the shift. Her farm currently sells direct to a high school and three day cares in the area.

Barriers

Several modern trends in food and agriculture were identified as barriers to local food system development and thus farm-to-university. They blame international competition for driving down the price farmers get for their food, corporate concentration for eroding local markets and a lack of political support for alternatives for creating an environment where the benefits of food production and consumption favour big agri-businesses and large-scale agriculture.

Several other barriers identified by the farmers stem from the difficulties some have encountered selling to public institutions. Farmer #3 said he tried hard to make a connection work between his farm and a local day care but the partnership ended due to delivery issues. The farmer explained that since he was required to spend most of his time on the farm, his delivery schedule was limited. Arranging a convenient time for delivery became too difficult so he had to tell the day care he could no longer serve them. Speaking from her experiences selling to a high school and three day cares, Farmer #1 mentioned the challenge of having to adapt to institutional markets to make them work.

While her farm rarely washes harvested vegetables as this reduces their lifespan, the day cares demanded that they do so since unwashed vegetables such as potatoes took them too long to prepare. This created a bit more work for her farm. The farmer has also experienced difficulties fulfilling institutional demand. Since she cannot always guarantee the availability and quantity of all her products, she feels institutions must also adapt and learn to be creative with the food that is available.

Opportunities

Growing consumer interest in alternative food and agriculture is seen as a potential opportunity for developing programs such as farm-to-university. This opportunity is based on the belief that consumers hold significant power to drive change within the food system. Since becoming the first farm to join Équiterre's CSA network over a decade ago, Farmer #1 says she has noticed people are more open to visiting the farm, volunteering for a day and asking more complex questions about their food. The farmers generally feel that the more consumers understand the connection between human health and the environment and how local agriculture fits into that equation, the more opportunities there will be to create strong bonds between producers and consumers. As such, creating educational opportunities with communities was repeatedly mentioned as an important component to shifting consumer interests in favour of alternatives.

4.2 STUDENT SURVEYS

This study surveyed 150 Concordia University students. A purposeful sampling method yielded an equal number of responses from students at the Loyola and SGW campuses and a near 50/50 split between females and males (52 percent and 48 percent

respectively). The survey asked students questions about how they make food choices on campus; their opinions towards local food, sustainability, agriculture and other related ideas; their awareness about the availability of local food and their willingness to pay more for it. From the responses, two notable findings emerged. First, student opinions were somewhat polarized; while many responses expressed great interest in local food, others were largely apathetic towards the idea. And second, the majority of students said they were willing to pay more for local sustainable food. For complete survey results, please refer to Appendix E.

4.2.1 Student Opinions

Several questions were asked which were intended to assess student opinion towards local food and related concepts. In general, most responses suggested a degree of awareness and interest. For instance, as 84 percent of students agreed or strongly agreed that it is important to keep farming a viable activity in Quebec and in the rest of Canada, the majority or 83 percent also agreed or strongly agreed that purchasing locally grown food is an effective way to keep local farms viable. Question #7, which was open-ended, asked students what locally grown food meant to them. As might be expected, most responses expressed an interpretation based on place or distance (e.g. food grown in Quebec or food grown 100 miles from my home). A few other responses, however, articulated a deeper understanding. For instance, some responses equated locally grown food with healthier rural communities and improved farmer livelihoods, superior freshness and more nutritious and healthier food among others. These responses illustrate that some students are perhaps more aware of the potential outcomes of choosing local food.

Answers to some of the other questions however were quite polarizing, as some students expressed great indifference about ideas related to local food. Responses to question #13, which asked students if knowing where their food comes from and how it was produced was important them, best exemplifies this difference in opinion. For the 65 percent (n=97) of students who either agreed or strongly agreed with the above statement, concerns over certain food practices and wanting to avoid them (e.g pesticide use, GMOs, hormones, the mistreatment of animals) and the desire to support local farmers and the local economy, were frequently mentioned in their written responses.

> If by my purchasing I can encourage practices that are more sustainable or environmentally friendly, I will because I definitely think we all need to change current practices that are creating pollution, loss of bio-diversity, soil erosion, etc. (Student #126)
>
> We need to pay attention to this. How we spend our food dollar says a lot about how we think about our food. (Student #140)
>
> I study geography and I am interested in rural character. We need solutions that can get farmers a better deal. So when I buy local goods, I can be sure the farmer benefits (Student #123)

On the other hand, for the 35 percent of students (n=53) who disagreed, strongly disagreed or were neutral with this statement, written responses were much less enthusiastic.

> I don't really care if the food I eat comes from Canada, US, South America, Europe etc. as long as it is healthy and tasty (Student #14)
>
> As long as I can eat it and not break my budget I could care less (Student #20)
>
> I only care about the final product that is on my plate and the taste (Student #106)

The desire to know more about the origins of our food and the methods used in its production is one of many reasons people choose to eat local food. This of course

assumes that this information is readily available which, as some students pointed out in their responses, is not always the case.

4.2.2 Student Willingness to Pay More for Local Food

To get a more explicit sense of student interest in local food, question #19 asked if participants were willing to pay more for locally sourced and sustainably produced foods.[24] This question assumed that local sustainable food would cost more. Using two scenario-type questions, students were asked if they would accept a price increase on a salad costing $3.50 and on an apple costing 98¢, if these items were sourced locally and sustainably produced. In both scenarios, at least three-quarters of the respondents said they were willing to accept a price increase. Of those respondents, 31 percent (n=47) said they would be willing to pay 50¢ more for a salad and 33 percent (n=50) said they would be willing to pay 7¢ more for an apple. While these responses suggest that some students may not be discouraged from paying more for local sustainable food, it is crucial not to overstate the importance of this finding. Food is a commodified good and therefore access to food greatly depends on a person's ability to pay for it. Considering that the results from question #20 show that the majority of respondents were relatively low-income (63 percent (n=89) said they earn less than $10,000 a year) higher food prices could restrict student access to these foods.

4.3 PRODUCE PURCHASING DATA

Chartwells purchased just over $63,000 in fresh produce between August 2005 and April 2006. The results show that purchasing as a whole was concentrated. Among the 55 different items purchased, just 20 items accounted for 90 percent of all purchases.

[24] It should be noted that definitions of local food and sustainable production were not given and therefore open to interpretation.

The results also show that price-fixing played a significant role in the purchasing of those items. Price-fixing is an agreement between a buyer and a vendor that guarantees the buyer the same price for an item year-round. Nine staple items: lettuce, tomatoes, cucumbers, mushrooms, broccoli, celery, cauliflower, onions and potatoes accounted for 99 percent of the over $29,000 spent on price-fixed items. In other words, of the limited variety of produce purchased, nearly half of the produce budget was spent on items that were the same price throughout the nine months examined. For a complete purchasing summary by item, please see Appendix F.

4.3.2 Local Purchases

Quebec produce accounted for over 10 percent of all produce purchases (see Table 7). Quebec produce was second in total purchases behind California produce, which alone accounted for over one-quarter of the total produce budget. Interestingly, the amount spent on Quebec produce nearly matched the amount spent on produce from Ontario.[25] Similar to the overall purchasing patterns described above, a large portion of local food purchases were also concentrated and price-fixed. Among the 25 different items purchased of Quebec origin, only 10 items: potatoes, lettuce, broccoli, celery, cauliflower, zucchini, red peppers, tomatoes, onions and apples accounted for 90 percent of all local food purchases and 100 percent of the over $2,000 spent on price-fixed local food items.

4.3.3 Seasonality of Purchases

Seasonality refers to a time of year when a given produce item is available or

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[25] While Ontario produce was not included in the definition of local food used in this study, it is worth noting that a significant number of eastern Ontario farms lie within a 160km of Montreal. This would make produce from this area 'more local' in terms of food miles than produce grown and shipped from farms in the Quebec City area. Limitations such as this should be considered when future research defines local food.

Table 7: Origin of Produce Purchases

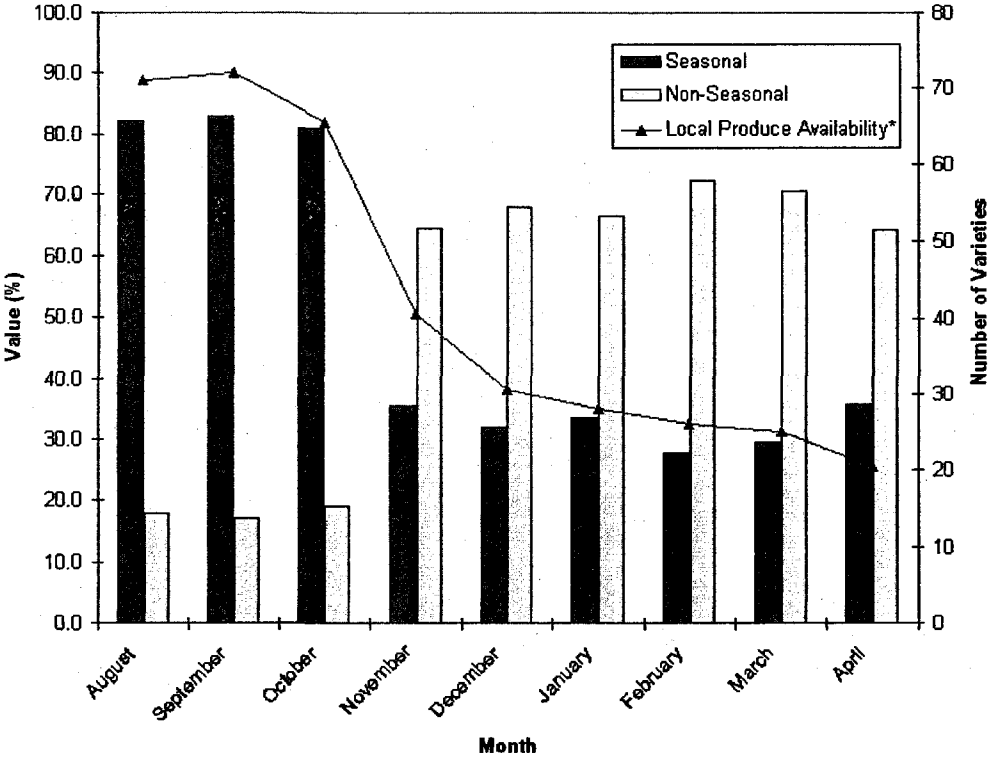
Country/Region of Origin	Amount ($)
USA	29,457
California	16,890
Florida	4,438
USA (no state specified)	3,656
Washington	2,350
Delaware	942
Pennsylvania	490
Alabama	471
Virginia	116
New Jersey	75
Texas	29
Canada	12,907
Quebec	6,619
Ontario	6,288
Mexico	4,476
Costa Rica	2,325
Chile	1,738
Guatemala	803
Israel	305
Honduras	251
Brazil	134
South Africa	130
Panama	107
Belgium	94
Dominican Republic	74
France	64
Uruguay	60
Holland	44
Italy	46
Argentina	39
Pakistan	6
Unspecified Origin	10,103
TOTAL	**63,165**

'in-season'. A seasonal purchase in this study referred to the purchase of a produce item at a time when that item was in-season in Quebec, whether that item was grown in Quebec or elsewhere.[26] A non-seasonal purchase was the opposite; the purchase of a produce item when that item was not available in-season in Quebec. While a seasonal purchase may be local or non-local, a non-seasonal purchase can only be non-local.

Figure 2 shows that the fresh produce purchases conformed reasonably well to Quebec seasonality. In total, the amount spent on seasonal produce nearly matched the

[26] For example, if Chartwells purchased field tomatoes in September, whether from Quebec, Ontario, California or Florida, it would be considered a seasonal purchase as field tomatoes are in-season in Quebec during September.

Figure 2: Seasonal & Non-Seasonal Produce Purchases, August 2005- April 2006

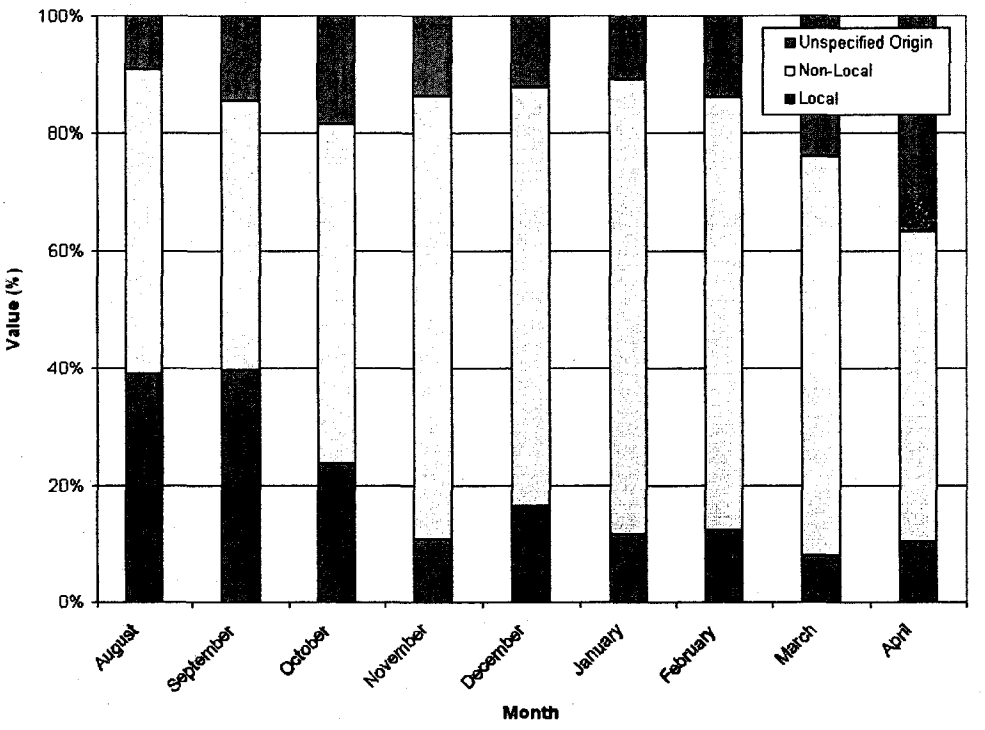


*Based on Quebec produce availability data collected from the *Fédération des producteurs maraîchers du Québec*, the *Association des jardiniers maraîchers du Québec* and the *Fédération des producteurs de pommes du Québec*. See Appendix D for a chart of the compiled data.

amount spent on non-seasonal produce (47.5 percent and 52.5 percent respectively). For purchases made in August, September and October when the availability of Quebec produce was at its peak, the proportion of seasonal purchases exceeded 80 percent. For purchases made during February, March and April when Quebec produce was least available, the proportion of seasonal purchases dropped and fluctuated around 30 percent.

Unfortunately, however, a seasonal purchase did not translate well into a local purchase as opportunities to purchase Quebec produce are being missed (see Figure 3). In fact, only 22 percent of all seasonal purchases were of produce items grown in Quebec. Over $18,000 or nearly 30 percent of the total produce budget was spent on non-local produce at times when theoretically the same produce was locally available.

Figure 3: Seasonal Produce Purchases from Local & Non-Local Sources, August 2005- April 2006



Therefore, the operation missed many potential opportunities to purchase Quebec produce during the time in question.

4.4 CONCLUSION

A range of interests, barriers and opportunities were identified in this study. Among the key findings, the prospect of new educational opportunities surfaced as a major shared interest among the participants representing Concordia University, Équiterre and local organic farmers. The promotion of responsible food choices and the practice of sustainability and food democracy (both culturally and operationally), were seen as means of creating consumer awareness about food and agricultural issues. These participants also felt that universities, given their role as education and research institutions, would make ideal places where these ideas could be developed.

Potential barriers to farm-to-university development at Concordia University included the possibility of higher food prices for local sustainable food, the current structure of the food service operation, the lack of resources available to support the development of local food infrastructures and existing consumer behaviour. On the other hand, potential opportunities for development included changing consumer behaviour and increasing consumer interest in alternative foods, an upcoming pilot project in Quebec that seeks to connect local farmers with larger public institutions and connecting a farm-to-university program with current institutional goals at Concordia University.

Complementing the interview data, results from the student surveys revealed two important findings. First, student opinion was split into two groups; some expressed great interest in local food while others were largely indifferent. Second, up to three-quarters of the student respondents said they were willing to pay more for local sustainable foods. Adding depth to the interview with the Senior Food Service Director of Chartwells, the produce purchasing data further exposed the rigidity of the purchasing model. Produce purchasing was concentrated and highly focused on predictability. Only 20 items accounted for 90 percent of all purchases and of those purchases nearly half were price-fixed. And while over 10 percent of the items purchased were grown in Quebec, nearly 30 percent of the produce budget was spent on non-local items when theoretically those same items were available locally.

5.0 ANALYSIS

In this study, the primary objectives were to identify stakeholder interests, identify barriers and opportunities and make policy recommendations that support the development of a farm-to-university program at Concordia University. In the last chapter, stakeholder interests and perceived barriers and opportunities were identified. In this chapter, the findings from the interviews, student surveys and purchasing data were synthesized to provide an analysis of the stakeholders in relation to partnership building and program development (policy development is discussed separately in the following chapter). The discussion begins with an examination of Chartwells' food purchasing model and why an import substitution strategy would be inadequate as a means of procuring local sustainable food. Next, it is acknowledged that Concordia University will need to develop a much deeper relationship with food and how the building of new partnerships premised on education and research could help the University achieve this goal. Finally, local food system capacity is discussed and why collective approaches to scaling-up will be necessary to supply large institutional markets such as Concordia University with local sustainable food.

5.1 PROCESS OVER PRODUCT: TOWARDS A LOCAL SUSTAINABLE FOOD PURCHASING MODEL

Without a rigorous restructuring of Chartwells' food purchasing model, the Concordia University community and local farmers are not likely to realize the full potential of a farm-to-university program. Chartwells profits not only from the scale of its operation but also from the centralized nature of its purchasing structure. Parent company, Compass Group, keeps a tight grip on its food supply network. As shown in this study, they do this by establishing contracts with as few large-scale vendors as

possible, developing recipes and menus well in advance and then price-fixing the necessary staple ingredients in order to simplify the purchasing process and keep costs relatively low and predictable.

> We do have a fairly complex purchasing system on our own. That's one of the primary advantages of contracting food services is purchasing power and the pricing is better [Senior Food Service Director, personal interview, July 27, 2006]

> [W]e are fortunate at Compass that a number of our staple products that we use everyday in our menus are price-fixed. Essentially we negotiate a price for a year so the price will not change...that doesn't necessarily save us a lot of money because we might be paying more than market value for one season and less than market value for another season but it simplifies life that we have standardized pricing and it protects us in case there is a terrible crop...otherwise what will happen is that in February, nobody wants to buy Caesar salad because romaine is too expensive [Senior Food Service Director, personal interview, July 27, 2006].

The very nature of this model complicates the idea of purchasing local sustainable food through non-conventional channels such as direct from the farmer or from farmer cooperatives or even small-scale distributors. Price-fixing, for the purpose of year-round price protection, denies the variable costs of growing food that occur due to changes in climate, input costs and other factors. It also defies the concept of local seasonality, as local farmers could never guarantee the availability of most produce items all year long. These types of arrangements can only benefit large-scale suppliers and purchasers. They ensure that the supplier has a guaranteed buyer and that the food service company has a reliable source of cheap food. In short, this model leaves farmers out of the equation and makes it impractical for a company like Chartwells to integrate local sustainable foods since it would not likely be profitable.

Such a rigid purchasing structure supports the notion that in order to develop a strong farm-to-university program at Concordia University, the focus needs to be on the

actual networks of food procurement and not just on the food itself. It is essentially a question of recognizing food as a process and not simply a product. Watts et al. (2005) argue that food localization efforts that are overly product-centric represent a weak food system alternative as "they emphasize the foods concerned, not the networks through which they circulate". DuPuis and Goodman (2005) call this approach unreflexive localism. An unreflexive approach to local food systems, they say, emerges from undemocratic, top-down processes that potentially leave the meaning of the local vulnerable to corporate cooptation. This can trivialize local food and render it into yet another niche market product. Just as large food companies have incorporated organic foods into their modern industrial food networks, local food, if not approached in a more democratic, bottom-up and reflexive manner, may suffer a similar fate.

To illustrate why a focus on food networks is vitally important, one need only to look at the potential for import substitution; a strategy for substituting a non-local item for a local item. If Chartwells were to redirect all of the non-local produce purchases made at times when the same produce items were available in-season in Quebec (in combination with the local purchases they were already making), they could have theoretically sourced 40 percent of all its produce needs locally. This shift in purchasing would not require much effort and could be facilitated through its current produce supplier. Chartwells' produce supplier, Hector Larivée, is the second largest produce wholesaler and distributor in Québec (Communauté métropolitaine de Montréal, 2004). This company is well integrated into industrial food systems (global and local) as their business is premised on meeting the demands of large conventional food service clients. In this case, an import substitution approach would help to address the issue of food miles

by redirecting purchases towards the local, which is without a doubt important, however, it would not change the dominant purchasing and supply structures. This means local food purchasing, within the present structure, would be limited to a few staple items and would continue to undermine the position of local farmers and their right to a fair share of the food dollar, efforts to create a more sustainable agriculture, and the establishment of closer relations between producers and consumers. In other words, while useful for evaluating the potential to integrate Quebec grown produce into the operation, an import substitution strategy, in and of itself, cannot create the kind of systemic change necessary to support alternative food supply networks in this particular case.

The example of apple purchasing further illustrates the inadequacy of an import substitution strategy set within the current purchasing and supply framework. Nearly all of the over $2,100 spent on apples were of two varieties: Granny Smith and Red Delicious. Both of these varieties are not grown in Quebec and were sourced almost exclusively from Washington State. Because apples store well long after they are harvested, many varieties of Quebec grown apples are available nearly year-round. Chartwells, by switching to local varieties such as McIntosh, Empire or Cortland, could easily source 100 percent of their apples from Quebec. Assuming they did, it would be very plausible for Chartwells, based on the literature which shows that large food companies operate the majority of existing farm-to-university programs, to claim social and environmental responsibility in their purchasing by this simple change. Imagine these local apples placed in wicker baskets donning large light-green signs proclaiming how purchasing these apples would help protect Quebec agriculture and the livelihoods of farmers and their families. Beckett (2006) would argue that this brand of corporate

green washing is what underpins a large portion of current farm-to-university programs. Indeed, in a highly competitive industry with razor-thin profit margins, large food service companies rush to capitalize on the latest food trends. When Chartwells realized how easy it would be to source fair trade coffee via their licensee partner, Starbucks, they did. The same was true with cage-free eggs, which is now a Compass Group-wide initiative. While there are many positive aspects to these decisions, the Concordia University community must be aware of attempts by these companies to dupe consumers through what I refer to as 'McLocalization' strategies, or in other words, the attempt to market simple local substitutes as systemic change. This study finds that an import substitution strategy; without the backing of a more flexible purchasing model and a local food supply network focused on sustainability, food security and community control, cannot overcome the structural problems community food security (CFS) strives to address.

5.2 CONCORDIA UNIVERSITY AND A NEW RELATIONSHIP WITH FOOD

For Concordia University to become a reliable market for local sustainable food, it must form a new relationship with food. Currently, Concordia plays only a limited role in providing food services on campus. The University is primarily responsible for selecting a contractor and acting as contract administrators. Since food is not considered part of its core mission, Concordia does not specify or regulate how a food contractor should purchase food or select its vendors. The present food contract permits Chartwells to set its own policies in these areas.

> [Food Services] is a huge operation and it cannot be effective in isolation. You really need national purchasing power and it is too complex and I mean, it is not our role. We are here to provide a research and educational environment, not learn to be good at food. So we do use them to provide food services on campus from restaurants to catering to the meal plan [Director of Auxiliary Services, personal interview, July 6, 2006].

> I think a lot of institutions have taken the approach that their primary goal is to provide education and research and their going to focus their energies on doing that and they will contract out experts to do the various other things that are not part of their mission [Senior Food Service Director, personal interview, July 27, 2006].

While this type of public-private partnership is not uncommon in universities across North America, it does unfortunately present a significant barrier to farm-to-university. As mentioned in the previous section, the purchasing structure employed by Chartwells, because of its scale and degree of centralization, would not be conducive to purchasing food from smaller, more direct local sources. If a farm-to-university program is to develop at Concordia, then the University needs to see itself as part of the solution or as Beckett (2006) writes, farm-to-university programs "must be integrated into the life-system of the institutions" (p.81). This, in part, requires Concordia University to expand its current food service role and exercise its power to carve out space for local farmers and their farm products by influencing the way food is purchased. But first, Concordia University needs to begin examining the potential for new partnerships with stakeholders both internally and externally since present administration cannot do this alone. The findings from this study suggest that education will drive partnership building.

5.2.1 Internal Partnership

Given that Concordia University is first and foremost an education and research institution, it is crucial that a farm-to-university program connect with these priorities. Generally speaking, the more connections a proposed idea can make to existing goals, the more likely institutional leaders will take notice. Not surprisingly, participants from Concordia University all mentioned creating new educational opportunities as their primary interest in a farm-to-university program.

> I would think the best way to approach [a farm-to-university program] would be to have it part of a faculty program. Just like compost is already here. So that is one way of looking at it. But the idea is that it is part of your education. I think it should be integrated by Concordia more than Chartwells. And it is probably a little harder here though because we do not have an agricultural or nutrition school unlike McGill...for us it is a bit more of a stretch but that is probably where I would see it being stronger [Director of Auxiliary Services, personal interview, July 6, 2006]

> I think it provides a really fantastic learning opportunity for students, staff, faculty and administrators that when we're buying our food from a local organic source, there's a lot of opportunities to meet the farmer, you know, having photographs of the farm or having tours...food issues are so critical because we all must eat. It connects so many issues in sustainability so perfectly [Sustainability Coordinator, personal interview, May 24, 2006].

As the Director of Auxiliary Services points out in the first quote above, there are no faculty departments at the University that, in a more traditional sense, have a direct interest or involvement with food issues. This does not mean, however, that the Concordia University community has no interest in food issues; it just means that there is no formal 'space' where this kind of education and research can take place. Indeed, food issues are, by nature, interdisciplinary. Perhaps no where is this better summarized than by Welsh and MacRae (1998) in there observation of food as a nexus:

> Food is a nexus for industry, rural/urban relations, global trade relations, domestic and social life, biological health, social belonging, celebration of community, paid and unpaid work, expressions of care, abuse of power, hunger strikes, fasts, and prayer. Food is part of daily life at least as much as we are consumers and possibly more as we labor for either love or money. Food and food production are inextricably tied to our ecological systems and survival in the future (as cited in Campbell, 2004, p.341).

As such, food interests at Concordia are potentially fragmented in departments and in other initiatives throughout the University. For instance, food issues may be of interest to students, staff and faculty in departments such as applied human sciences; biology; business; chemistry; economics; education; exercise science; geography, planning and

environment; political science; religion; sociology and anthropology, and theological studies; and among those involved in sustainability initiatives including composting, the greenhouse, and student-run food operations to name a few.

Moving forward and integrating farm-to-university into the life-system of the University will, in part, involve identifying ways to bring these potential interests together. Here it may be useful to think of Feenstra's (2002) approach to developing CFS initiatives. From her experiences, she argues that four types of community space need to be carved out by interested community members in order for an initiative to be successful. These include *social space*, where food planning and problem solving can take place; *political space*, where policy development can occur; *intellectual space*, where a vision for a program can be identified, researched and articulated; and finally *economic space*, where solutions to issues such as funding and the cost of food can be found. This study supports the notion of farm-to-university development taking place in interdisciplinary spaces. Here, capacity can be built to transition Concordia University into a reliable market for local sustainable food and a site for learning about local food issues and building food democracy through education and participation.

5.2.2 External Partnership

Farm-to-university development is also contingent on new relationships emerging between Concordia University and local farmers. Generally speaking, social and economic relations between universities and farmers have, in recent decades, been distant and indirect. Indeed, over the course of Concordia's history, this relationship has been mediated by large food service companies whose operations are deeply entrench in production, processing and supply systems that undermine the important role of farmers.

For the Concordia University community and local farmers to benefit from farm-to-university, they need to overcome this distancing by starting a dialogue. The results from this study suggest that this dialogue should initially focus on education.

As farm-to-university represents an entirely different approach to purchasing and supplying foods for university food service operations, education is needed at both ends; farmers need to learn more about university markets while university community and food service leaders need to learn more about local food and agriculture. This was acknowledged by some of the participants during the interviews.

> I think the challenge is going to be trying to find a balance between that noble pristine idea and reality. Part of that is educating the farmer and explaining to the farming community what kind of foods and level service institutions need [Director of Auxiliary Services, personal interview, July 6, 2006].

> Like the last one [day care] we found that the lady called me every week 'this is not like this or like that'. She said, 'the potatoes, it's crazy, it takes forever to clean because they have dirt on them'. For sure if they buy it at the store, they are clean so after that we cleaned the potato before we sell it. We don't clean the vegetables in the CSA basket because it helps their conservation. So we need to adapt ourselves with the garderie but at the end it worked out well...But the cook also needs to adapt. If it is not spinach and it is kale, you need to change the recipes [Farmer #1, personal interview, July 13, 2006].

> There needs to be a lot of discussion and communication to let the university and food service know what to expect and what a farmer could realistically produce. I think it would be good to start well ahead of the season. Like maybe even the season before, you know. If people from the food service could, for instance, visit a farm or two and just see what it is like, what the farm grows, how we do things that would be a good start...People are often surprised when they come to the farm for farm visits. They are like 'you grow that here, wow, and that many vegetables. That's incredible. And all local and all organic. [Farmer #4, personal interview, July 30, 2006].

Clearly, the more opportunities there are for stakeholders to exchange knowledge and gain a better understanding of each other's limitations and expectations, the more informed their actions can be. These actions include creating a more farmer-friendly

purchasing structure at the University and building a food and farming network capable of supplying the University with local sustainable food.

Addressing the need for consumer education and awareness emerged as a shared interest among the Concordia University, local food advocacy and local organic farmer participants. From the interviews (and student surveys), consumer apathy towards food issues was identified as a significant barrier to farm-to-university development. Overall, it was felt that despite a rise in demand for local and organic foods, most consumers lack an awareness of food and agricultural issues which limits their ability to make more responsible food choices. This overlapping concern for increasing consumer awareness suggests that it is a promising area of focus for partnership building, especially considering the many potential benefits it could bring for each of the stakeholders. For Concordia University, creating greater opportunities for student learning would contribute to the institution's mission which is, in part, to prepare students "to live as informed and responsibly critical citizens who are committed to learning and to the spirit of enquiry" (Concordia University, 2008). Moreover, the Director of Auxiliary Services mentioned how student learning would be essential to move student food choices away from less nutritious convenience foods and towards healthier food options.

> We are interested in having a successful student experience, so a successful student experience means you had a great place to study, you had fun, you grew intellectually on many levels and you're in an environment that reflected your values...I don't see any issue with this at all, and like I said, these people are going to go out one day and buy food...you can learn it here [Director of Auxiliary Services, personal interview, July 6, 2006].

> The students line up at the fryers and we always get a call for healthier food and they don't eat it. The things literally rot, so it needs another angle... education needs to be a big part of that [Director of Auxiliary Services, personal interview, July 6, 2006].

For the farmers, there was a strong sense that increasing consumer awareness about the connection between people, food production and the environment would help create support for the type of sustainable food and agricultural system they are trying to build as producers.

> Education, education, education. I think the consumer has to become more aware. I am amazed to find out that people don't know that there is chemicals in their food and there is all this product. So they eat and what they look for is the best price and the food quality is forgotten...But not just education on an intellectual level, but taste education, smell education, health education...not only learning in a class but learning how to cook and seeing the difference between a chicken from a factory farm and the chicken that we grow here. It is night and day [Farmer #2, personal interview, June 23, 2006].

> I think it is probably hard to overcome the habit, the culture of expecting to go to the supermarket and having the things that are called for in the recipe and sometimes recipes call for things that are not even in season. So I see educating the consumer as key. I mean, if more people were aware, and don't get me wrong, there are some that are, but if more were aware of the impacts of their decisions, farmers would not be in the crumby position we find ourselves in. Consumers really do drive change but like I said, it is hard to overcome the existing culture [Farmer #4, personal interview, July 30, 2006].

What surfaces from this shared interest in education is the potentially powerful role of Équiterre. As an organization dedicated to building local food systems through solidarity between producers and consumers, their work spans the entire food system; from promoting socially and environmentally responsible food choices on the consumption side, to supporting local farmers and a more sustainable agriculture on the production side. As such, their role as initiators of new partnerships is indispensable and could be what is needed to foster a dialogue between Concordia University and local farmers.

5.3 SCALING-UP: TOWARDS A LOCAL SUSTAINABLE FOOD SUPPLY NETWORK

To supply a large institution like Concordia University with local sustainable food, then local food advocates and farmers will need to find ways to "scale-up" local

food systems. Scaling-up here refers to the development of appropriate production, processing and supply infrastructures (or food networks) needed to move food from the farm to the university in ways that are mutually beneficial and sustainable in the long-run. From the interviews with participants, it appears that a direct market model, at least on its own, would not be adequate. While this model may well be suited for community supported agriculture (CSA) or for supplying local sustainable food to small institutions like day cares, feeding university communities will require additional network models capable of supplying food in larger quantities.

Within local food movements, there has certainly been a preoccupation with cutting out the 'middleman'. Considering the potential benefits, it is easy to see why. Advocates say direct marketing can "simultaneously solve problems of insufficient revenue for producers and high costs for consumers" (Allen & Guthman, 2006, p.408) thereby protecting farmland and making local sustainable food accessible to more price-conscious individuals and communities. Moreover, direct marketing is seen as a way to infuse solidarity, understanding and trust into food systems through the possibility of face-to-face relations.

While direct marketing has been crucial to building local food infrastructures in Quebec over the past decade, it is clear that this model is limited and is not the most effective way to connect producers and consumers in all circumstances. Moreover, there is evidence from this study to suggest that direct marketing is not always in the farmer's best interest due to a lack of resources and a desire to allocate more time to food production. For example, Farmer #3 had to end a relationship with a day care he agreed to supply food for because he could not deliver on their purchasing schedule.

> We agreed to serve a garderie but I'm going to have to back out of it. It is not going to work. Those kind of things depend on the day that we deliver. I have a crew working Monday to Friday...we harvest like mad during the week for Wednesday and Thursday baskets. You know, with delivery it is a challenge. When are we going to weed? When are we going to do maintenance and everything else? So, those are the questions that need to be answered [Farmer #3, personal interview, July 8, 2006].

Farmer #1 also mentioned the inconvenience of making deliveries. Her farm, located in the Monteregie region, makes frequent trips to Montreal to distribute her produce. However, because deliveries take away time from on-farm activities and requires more gas, she is now considering the option of selling more of her farm products closer to home.

A food service operation at a large institution, regardless of the purchasing model used or who controls it is a demanding business. Chartwells is responsible for operating two large cafeterias and numerous food outlets around campus, providing daily meals for over 400 students in residence and serving food for catered events that range from simple fruit and vegetable platters for small committee meetings to full sit down meals for hundreds of visitors attending an academic conference or special campus event. While the Chartwells purchasing model is an extreme example of consolidation and control, it would not be unreasonable to expect a future local sustainable food purchasing model to place a limit on the number of vendors involved or to have some level of vendor standards when it comes to reliability of supply and delivery. A direct marketing model in which farmers work independently and only source food that grows on their farm would likely be in conflict with these expectations. To illustrate, imagine a chef is preparing to make a vegetable soup featuring local seasonal produce as a 'soup of the day' offering. If that chef had to deal with one farmer for carrots, one for celery and

another for onions and each of them had different delivery systems and schedules, then making a simple mirepoix for the soup could potentially turn into a logistical nightmare. The Senior Food Service Director and the Director of Auxiliary Services make a number of important points which touch on some of the realities of providing food services at Concordia University.

> I think working with farmers would be fine. I think that it would be great especially with produce. The only concern would be the reliability of supply...If I needed ten cases of romaine tomorrow and the farmer only has three, then I'm in trouble [Senior Food Service Director, personal interview, July 27, 2006].
>
> When we deal with Hector Larivee for our produce, they deal with the growers directly and that is one of the things they do for us is that they go out there and they find the product and they make sure it is good quality, warehouse it, refrigerate it, deliver it on our schedule. So from that point of view, we could certainly work with local farmers but not directly but through an intermediary because of that whole issue of size [Senior Food Service Director, personal interview, July 27, 2006].
>
> In the food industry in general, if you are the chef of a small restaurant, you spend a lot of time on the phone looking for suppliers, looking for the best price and going out and hunting stuff down. We don't do that. We are too large. The University market is too demanding [Senior Food Service Director, personal interview, July 27, 2006].
>
> I think the key is that you've got the farmer, you've got the institution and the network has to be strong...My focus is on feeding all these people. I have to be profitable and I have to provide food services at the University. The farmers focus is, I need to get all this food out of the ground. There has to be somebody in the middle who says it is my business, my raison d'être...to go to the farm and bring it here and to create the drivers. That's what is missing [Director of Auxiliary Services, personal interview, July 6, 2006].

I would argue that scaling up is not only necessary to develop local food systems (and farm-to-university), but that the role intermediaries play is vital and should not be overlooked by local food advocates. Arguing that one of the biggest barriers to developing farm-to-institution programs is actually getting the produce from the farm and

to the institution, Allen and Guthman (2006) find it ironic that the "rhetoric of cutting out the middleman" among local food advocates still persists.

> For schools, working with multiple vendors is particularly onerous in an era of prescribed cost-cutting. In fact, a study of direct purchasing of produce for schools concluded that obstacles to local purchasing would be reduced if local growers and producers would work together so that school food service ordering and payment could occur through a single representative (Allen & Guthman, 2006, p.408).

Indeed, Allen and Guthman advocate for a new type intermediary where farmer cooperation, which has been lacking historically, could help ease logistical problems and increase the capacity of farmers to serve institutional markets. These sentiments are also being echoed by those on the ground developing these programs. Mike Schreiner of Local Food Plus; a non-profit organization that connects local sustainable farmers to food buyers at the University of Toronto writes,

> Although I am a strong proponent of farm direct sales, the reality is that many farmers are not in a position to market directly to consumers. Co-operatives, farm-based distribution businesses and farmer friendly packer/shippers are critically important stakeholders in the value chain that can help farmers get product to market, while providing them with adequate returns....Farmers do need to control more of the "middle" from farm to fork... [and] I think co-ops can play an important role in helping them do so (Schreiner, 2008).

Despite the power and pervasiveness of the modern food system and a lack of political support for food system alternatives, people and communities in Quebec are finding ways to scale-up local food systems. Most relevant to this study is the *Alimentation Institutionnelle Responsable* pilot project initiated by Équiterre in October, 2007. This three year project which connects local organic farmers with about a dozen primary and secondary schools and a hospital in Montreal and the Monteregie region has great potential to spark the development of more 'scaled-up' local sustainable food purchasing and supply models. As the Project Coordinator explains,

> If we go to schools, there is a question of volume. So we might have to inspire them [the farmers] with other models [besides direct marketing] that we have seen being developed in the United States. Some of our farms here are already working together, not in a co-op, but still buying each others' vegetables for CSA baskets...so we might have to stimulate them to organize a kind of co-op to give the volumes that would be needed [Project Coordinator, personal interview, July 5, 2006].

This study therefore supports collective approaches such as farmer-owned cooperatives and small local distribution partnerships as possible solutions to scaling-up local food systems. However, at this time, additional research is greatly needed to assess the feasibility of such developments. For example, future research should focus on what types of farms should be involved and how coordinated information and delivery systems can be built to accommodate institutional food service ordering.[27] Furthermore, the policies and measures that will be proposed by an advisory committee (consisting of provincial government representative among others) at the end of the three year pilot project could shed more light on ways local food systems can be scaled-up to involve more interested farmers and institutions. These recommendations may also provide an opportunity for government to become more involved which would be significant as they have largely been a missing stakeholder in the local food movement in Quebec thus far. The advisory committee's report, due out in 2009 or 2010, should be of particular interest

[27] On the topic of information systems, a recent project coordinated by *Les Amies de la Terre De Québec* (the Quebec branch of Friends of the Earth Canada network) called Le Marché de solidarité régionale de Québec (MRSQ) is worth investigating. Using a specially designed web-based inventory and ordering system, organic and conventional farmers can post what farm products they have available to members of this market network. Members can select what they want then pick up their purchases at a designated drop-off point. By using the internet to create a virtual marketplace, barriers to communication are broken down (Les Amies de la Terre De Québec, 2008). A similar project initiated by the Oklahoma Food Cooperative allows interested organizations to download, for free, their local food cooperative software. This open-source program is web-based and is fully customizable and has been used by other cooperatives in the United States to connect producers with food buyers (Local Food Cooperative Software, 2008).

to anyone who wishes to see a farm-to-university program at Concordia University in the future.[28]

[28] It is worth noting that a recent provincial commission, tasked with reporting on the issues facing Quebec agriculture, made a number of progressive policy recommendations that could signal a new policy direction for this sector. Among them, the commission recommends prioritizing agricultural production for Quebec markets; diversifying production towards local and organic products and moving away from commodity agriculture; supporting short and direct food supply chains such as CSA, public markets (farmers' markets) and on-farm sales; and encouraging governments to embrace a policy of food sovereignty to ensure Quebec (and the rest of Canada) retains the right to develop its own agricultural policies (Commission sur l'avenir de l'agriculture et de l'agroalimentaire québécois, 2008).

6.0 POLICY RECOMMENDATIONS AND CONCLUSIONS

As a major component of community food security (CFS) planning, policy development that supports partnership building and program development help to break down barriers and seize opportunities with the goal of implementing CFS strategies. In this chapter, a number of policy measures are recommended. Examples from the University of Toronto, which successfully launched a farm-to-university program in 2006, help to guide part of this discussion. The chapter ends with the final conclusions of this study.

6.1 FOOD POLICY COMMITTEE

To begin forming a new relationship with food, it is recommended that the Concordia University community establish a food policy committee. This committee would lead in the planning of policies and programs that work towards achieving CFS goals. These goals include improving community access to nutritious foods and supporting local food systems that value sustainably, food security, social justice and democratic decision-making. Farm-to-university should be seen as an important element for achieving these goals. In planning a program, it is believed that a food policy committee would fill a vital role as a democratic space where diverse food interests at the University (and beyond) could coalesce. Using Feenstra's (2002) notion of 'creating spaces' for CFS initiatives, Table 8 presents some potential roles and functions of a committee as informed by this study. Focusing on carving a political space at the University for farm-to-university, the following sections examine possible long term and short term strategies.

Table 8: Possible Roles and Functions of the Food Policy Committee

Role	Function
As a Social Space	• Facilitate an institutional dialogue on finding solutions that support local food purchasing among administration, staff, faculty, students and food services. Must also leave room for local food advocates and farmers to add to the dialogue. • Form new alliances and partnerships.
As a Political Space	• Approach policy in two ways: a) long-term strategies to effect systemic change (formal policies); b) short-term strategies that work within the existing food service framework (informal policies).
As an Intellectual Space	• Make connections with faculty and students interested in food studies. • Encourage research that supports the development of farm-to-university. • Articulate a vision and define meanings of 'local' and 'sustainable food' for this context.
As an Economic Space	• Seek additional financial resources to support initiatives. Tying farm-to-university to existing institutional goals could help security grants. • Examine the issue of student access to food in relation to the cost of local sustainable food.

6.2 LONG TERM STRATEGY: LOCAL FOOD PURCHASING POLICY

This study found the Chartwells food purchasing model to be in conflict with farm-to-university and the idea of local food purchasing through more sustainable food supply networks. As discussed earlier, this model is premised on the idea of scale and centralization. In this particular case, the Chartwells model favours contracts with a limited number of large-scale vendors, centralized menu development and menu cycling, and the price-fixing of key ingredients. In order to create long-term strategies for systemic change, this study suggested that Concordia University needed to expand its role and find new ways to exercise its power to accommodate local farmers and their products into the food service operation. Taking the next step towards establishing this new role will most likely mean incremental as opposed to radical change. A radical change would involve a move to a self-managed service. This would allow the University to design a more sustainable food operation from the ground-up. This

scenario, however, is unlikely to emerge for two reasons. First, Concordia University has no recent experience managing a food services operation. Since around the time the University was established in 1974, it has chosen to hire a large food service company to carry out these duties.[29] Second, making the shift towards an in-house operation would be expensive and highly unconventional. The general trend in institutional food services has been towards contracting-out, not the other way around. With that being said, the more likely scenario is that Concordia University will continue to rely on Chartwells (or one of the other 'big three' companies) to run its food operation when the contract comes up for renewal in 2015. And it is here at this critical juncture - the 2015 food service contract - where efforts to take back control and redirect the current food supply network towards more sustainable alternatives must be focused.

This study recommends that Concordia University work towards developing and implementing a local food purchasing policy (LFPP) in time for the 2015 contract review process. This approach was favoured by the University of Toronto when it established its farm-to-university program in the fall of 2006. The policy, which was incorporated into a food service contract signed by Aramark, made it mandatory for the company to purchase a certain percentage of its food through a network of local farmers certified by non-profit organization, Local Food Plus. It is believed that by institutionalizing local food purchasing practices in policy, some institutional barriers to local sustainable food purchasing can be overcome. Looking at two issues; the sourcing local sustainable food and determining the cost of local sustainable food, the following sections discuss how a

[29] Prior to Chartwells receiving a 13 year contract in 2002, rival Sodexho held the account for 26 years (Director of Auxiliary Services, personal interview, July 6, 2006).

policy at Concordia University could help address these barriers and what might be involved.

6.2.1 Sourcing Local Sustainable Food

One of the biggest challenges to developing a LFPP is actually finding reliable sources of local sustainable food. As this study found, local food infrastructures in Quebec are generally underdeveloped and need to be scaled-up to meet the demands of large institutional markets. While it would be easy at this point to dismiss a LFPP on the grounds of supply, stakeholders need to be mindful that neither the market for local sustainable food nor the policy context for a LFPP are static and will continue to evolve, bringing with it new opportunities for development (Sachs & Feenstra, 2008). This logic is essentially what underpins a policy adopted by the University of Toronto. To address the supply issue, the University is taking an incremental approach which commits the institution to purchase a certain percentage of local food each year. To make room for growth, this percentage increases as supplies become moreavailable. In taking this approach, the University makes a bold statement about its commitment to creating a stable market for local farmers and supporting the development of local food supply networks. Lori Stahlbrand, founder and president of Local Food Plus, adds that this approach also makes it easier for a food service operation to adapt to new suppliers and new products while simultaneously allowing supply networks the opportunity to grow to meet rising institutional demand:

> Currently about 10% of the food in selected venues such as University College, 89 Chestnut, Hart House catering and other venues, is local and sustainable. The U of T has made a commitment that this percentage will grow each year...What makes this approach work, and why institutions are lining up to get on board, is that food service providers can move towards a greater percentage of local and sustainable food on a step-by-step basis, as the supply

> becomes available. This is not an "all or nothing" approach. There is room for all the relationships, as well as the supply of local sustainable food, to grow (Local Food Plus, 2007).

If Concordia University were to assume a similar approach, a LFPP would have to establish purchasing targets as well as a review process to ensure compliance.

Determining realistic purchasing targets would involve working with all stakeholders to fully assess what is possible. To start, the University could work alongside Chartwells to determine exactly how local food would be incorporated into the operation. Evidence from this study suggested that catering would be the best option. Unlike retail food sales which operate on predetermined menu cycles, catering allows recipes and menus to be more flexible. One possible downside to catering, however, is that it may not reach as many students as retail sales might. To make retail food more conducive to featuring local foods, it is recommended that Concordia University try to persuade Chartwells to allow for some on-site recipe and menu development. A policy could include provisions which call for a review of recipes and menus to reflect seasonal and local availability. And then, of course, there is the question of what types of food to incorporate. Answering this question will largely depend on supply. This is where the University will have to rely more on supply-side stakeholders such as Équiterre and local farmers to determine availability, quality, presentation and delivery terms. In one area, fresh produce, this study found that up to 40 percent of all produce purchases could have theoretically been sourced from farms in Quebec. This figure could increase if menus were altered to incorporate a greater variety of local seasonal items including those in Table 9, which were not being purchased by the operation. Future research should focus on the potential to source other local items such as dairy, meats, eggs, breads, cereals and

Table 9: Quebec Grown Produce Items Not Purchased By Chartwells August 2005-April 2006

Product	Local Availability
Apples	
Cortland	Oct - June
Empire	Oct - June
McIntosh	Oct - June
Spartan	Oct - June
Vista Bella	Aug
Artichoke	Aug - Sept
Brussel Sprouts	Aug - Dec
Cabbage	
Chinese	Mid June - Mid Feb
Savoury	Aug - May
Celery Root	Aug - March
Chicory	Mid June - Mid Nov
Escarole	Mid June - Mid Nov
Fava Beans	Mid July - Mid Sept
Green Onions	Mid May - Oct
Ground Cherries	Mid July - Mid Nov
Hot Peppers	July - Oct
Kidney Beans	Mid Sept - Mid Oct
Lettuce	
Boston (Hyrdoponic)	Year Round
Boston	June - Mid Oct
Iceberg	June - Oct
Onions	
Spanish	Mid Aug - Mid Dec
Pickles (Fresh)	Mid July - Sept
Sweet Potatoes	Year Round
Pumpkin	Sept - Mid Nov
Radicchio	June - Oct
Rhubarb	May - Mid July
Rutabaga	Year Round
Sweet Corn	Mid July - Oct
Swiss Chard	Mid June - Mid Oct

other items and how they could be integrated into the operation.

Establishing purchasing targets would also require some kind of review process to ensure that these targets are being met. One possible solution would be to require Chartwells to submit a purchasing report each month to be reviewed by the

Auxiliary Services Department. This report could include information on what was purchased, how much it cost and who it was purchased from. Based on the University's current role as contract administrators, it is believed that monitoring a LFPP policy would not be beyond Auxiliary Services' responsibilities.

6.2.2 Determining the Cost of Local Sustainable Food

The continued viability of local farms is a major facet of farm-to-university, as is the promotion of a more sustainable agriculture. Justly rewarding farmers and acknowledging their sustainable farming practices generally means paying more than the cost of conventional food which institutions typically purchase. While this may not always be the case for all food items (participants in this study acknowledged that price is not always a uniform issue and, in part, depends on the time of year and what farm the food was grown on), participants at Concordia University expressed some concern about the prospect of higher food prices. First, they felt the higher cost of food could impact the affordability of food on campus. While this study found that the majority of student respondents were willing to pay more for local sustainable foods, there is no denying that cost is a major determinant of food access and that the higher cost of food disproportionately affects lower income people. The issue of student affordability and food prices should be an area of future research. Second, the possibilities of higher food costs also raised questions concerning profitability and budget control. The participants mentioned that the provision of food services on campus is contingent on Chartwells remaining profitable. They also stressed that any future sustainability initiative, such as a farm-to-university program, would have to demonstrate that it could remain within a reasonable budget.

So if a farm-to-university program is to be successful, then how can these potentially conflicting interests be reconciled? At the University of Toronto, all that is known about price is that it is derived through negotiations between farmers and institutional food buyers (Local Food Plus, 2008). Given the fact that a large food service company like Chartwells has more clout in the marketplace to dictate food prices compared to say a small cooperative of 10 vegetable farmers for example, one would have to imagine, for argument's sake, that guidelines would be needed to direct these negotiations to ensure fair outcomes. Based on the findings of this study, guidelines for determining the fair cost of local sustainable food should consider 1) both the fixed and variable costs of food production (as opposed to year-round price-fixing), 2) food prices in comparable markets (e.g. other local and community-based markets), and 3) the cost of food relative to the overall food budget (as some foods might cost more at times while others less). Here Concordia University could work with its partners to establish pricing guidelines and these guidelines could be made part of a LFPP. Elaborating on the points above, Table 10 presents some ideas for generating a discussion on what these guidelines could look like and their possible implications for local farmers and the food service operator.

In addition to pricing guidelines, a review the overall costs of a LFPP should be made part of the Auxiliary Services Department's contract administration role to ensure cost effectiveness. In doing so, it is recommended that the University consider not only the overall costs of a program, but compare them to any potential benefits of a LFPP, including public relations benefits for the University as a supporter of local farmers, rural

Table 10: Possible Guidelines and Implications for Establishing 'Fair' Local Food Prices

Guideline	Implications
1. Prices should reflect both the fixed and variable costs of food production. The farmer should be able to justify their asking price.	**For the farmer:** some of the risk (variability) of food production is acknowledged in the price. **For the food service operator:** eliminates the practice of price-fixing. However, can ask for justification if price appears too high.
2. Establishing a fair price could be determined by comparing the price of a food item to comparable markets (e.g. farmers' markets, CSA, or other farm-to-institution programs).	**For the farmer:** some of the risk (variability) of food production is acknowledged in the price. However, the price should not be too far off what comparable markets are asking. **For the food service operator:** gives them room to negotiate a price that reflects comparable market value.
3. The price of an item to be paid by the contractor should be considered in light of the overall food budget.	**For the farmer:** some of the risk (variability) of food production is acknowledged in the asking price. **For the food service operator:** allows for the purchase of higher priced items as other items may cost less and so overall food costs remains unchanged.

communities and sustainable agriculture; the reduction of the institutions' 'ecological footprint'; a healthier university community population; and opportunities to expand education and learning. This idea was suggested by the Program Coordinator at Équiterre. In her experience working with day cares, she has seen how cost barriers can be overcome when institutional stakeholders strongly identify with the positive social and environmental aspects of procuring local food from more sustainable sources. Future research should focus on the LFPP of institutions elsewhere and how the measures included in those policies could help Concordia University overcome its own barriers to local sustainable food purchasing.

6.3 SHORT TERM STRATEGIES

As systemic institutional change is long term process, a number of ideas for short term strategies emerged from this study. These strategies, while smaller and less formal than a LFPP, work within the existing framework and could provide the kind of instant results and initial momentum needed for Concordia University and its partners to support the kind of long term strategies that require more resources and planning. Short term strategies could also spark new partnerships and generate discussions about future possibilities.

6.3.1 Community Supported Agriculture

Concordia University as a weekly drop-off point for community supported agriculture (CSA) was an idea suggested by one of the farmers:

> Not to get off topic but I think it would be really interesting as a CSA farmer to set up drop-off point at an institution where people could pick up their baskets at work or school and bring them home with them...I mean if some institution says 'we are going to guarantee that you are going to get 100 people, can you deliver etc etc' then all those hurdles between the farm and the institution are overcome. It is literally, you know, I can take 100 people and if I am charging $400 per season, then an institution has just handed me $40,000 up front [Farmer #3, personal interview, July 8, 2006].

Compared to farm-to-university, a CSA network is already well established and a program could be developed within a relatively short period of time. Research to determine any potential barriers as well as the number of staff, administrators, faculty and students on campus during the summer months, could be carried out in advance to get a sense of the potential market. Creating a drop-off point would not be the first time it has been done at Concordia University. For the last few years, the student-run food cooperative, Le Frigo Vert, has been the site of a CSA drop-off point for the community. If the University, through its Auxiliary Services Department, got involved and put some

of its resources behind promoting and hosting a drop-off point, it could build on the efforts that have already been made by reaching a potentially wider audience. A CSA drop-off at Concordia University could have many potential benefits. For one, it could help establish a contact between the University and Équiterre, since they administer the program. It could also help establish a connection with a local organic farmer and the greater farming community. Moreover, a CSA drop-off point could act to raise the profile of local food and agricultural issues at the University and generate the kind of interest needed to support future endeavours.

6.3.2 Not Only Farm-to-University but University-to-Farm

When asked what Concordia University could do if they wanted to make initial connections with farmers, the participating farmers had a number of interesting suggestions. From their perspective, there were many things a University could do to support a farm that would not involve purchasing food. Drawing inspiration from permaculture; a farming practice that strives to work with nature rather than against it, Farmer #2 liked the idea of a university supporting a farm with compost.

> Well one part of permaculture is that any system wants something from another system...for instance, the bee gives more to the system, to the vegetation and the flowers, than it takes and so forth...So what I would like to see here is that a university actually starting to say 'well let's do something with the farmer, to help the farmer, and then maybe we will have food coming back from the farm'. Like 'let's take use all the left over food and bring it to that farm' and that way the whole university is working and helping one farmer or two or three farmers. The nutrients would come back to the farm and that would help the organic farm to grow and then they take back food for themselves [Farmer #2, personal interview, June 23, 2006].

One interesting aspect about this idea is that Concordia University is presently embarking on a major composting program.[30] If compost organizers were interested in the idea

[30] See Sustainable Concordia's website for more details (http://sustainable.concordia.ca/).

suggested here, future research could look at the potential to connect the composing program with interested farmers. Doing so would help Concordia University close its nutrient loop; where food waste is returned back to the earth.

Other ideas suggested by the farmers draw on Concordia University as an education and research institution and how the institution can assist with the practical needs of farmers. For instance, two of the farmers suggested that Concordia students, as part of their learning experience, could help farmers learn important computer applications that would help them support their farm operations.

> I mean, I would love it if, and this is just my handicap is dealing with accounting. I have Simply Accounting [software] and I need to learn how to use these accounting packages. I would love it if the University sent me something saying 'look, we are going to offer these students as part of their learning on how to be good accountants and they will be able to advise you on how to set up your books'. That would be very useful to me. You know, hands on, really useful stuff [Farmer #3, personal interview, July 8, 2006].

> For instance, not only agriculture but it could be the computer class that would help to do logistics for the farmer. You know, the real things. Not all farmers have these skills. That could be something to help and you know the university is the intellectual part of society, so that could be interesting for the farmer too [Farmer #2, personal interview, June 23, 2006].

Faculty departments and students connecting with local farmers could be a powerful learning opportunity and could help build relationships between Concordia University and farming communities. Future research to support these ideas could focus on course curriculum and how university-community partnerships can be created to benefit students as well as farmers.

6.4 CONCLUSIONS

There exists at this moment a growing anxiety about the way we produce, process, distribute and consume the food we eat. In rural and urban communities across North America, signs that modern food and agriculture are failing our farmers, our environment, our health and our poor are growing painfully apparent. As we slip deeper and deeper into crisis, the beneficiaries; the large food companies and agribusinesses, continue to make windfall profits. Now that we find ourselves at the brink, an appetite for change has started to develop. While small, this change is real. Alternatives to the modern food system, of which the promotion of local food is a part, challenges us to develop democratic practices so people and communities throughout the food system have an opportunity to shape food and agriculture and share in its bounty.

Farm-to-university programs offer a concrete example of a food system alternative. Regarded as the planned efforts to connect universities with local farms through community-based development, farm-to-university is intended to benefit farmers with fair and stable markets while making local sustainable food more accessible to members of university communities. With hundreds of programs operating in colleges and universities in the United States and with the recent development of programs at the University of Toronto and the University of British Columbia, the spread of farm-to-university forces us to re-evaluate the ways universities purchase food.

As an initial assessment of the possibilities for farm-to-university at Concordia University, this community food planning study was an attempt to identify stakeholder interests as well as potential barriers and opportunities to development. In the course of this research, I learned that Concordia University needs new purchasing and supply

structures that can effectively link food services and farmers in order to become a reliable market for local sustainable food.

This study found the rigidity of Chartwells' food purchasing model to be incompatible with the idea of local food purchasing from more sustainable food supply networks. Although the potential to source a large portion of Quebec grown produce was found to be theoretically possible, relying solely on import substitution in the absence of a sustainable food supply network, will not foster food system change as farmers are left out of the equation. This finding helps to reinforce the reason why concerned stakeholders must continue to complicate the idea of local food. Far too often, alternative food movements have seen their efforts dissolve and absorbed into modern food systems; not because they were ill intended, but because they did not challenge the underlying structures.

As I suggest in this study, challenging these underlying structures can occur from the inside out. With farm-to-university, the institution must be aware of its power to shape food purchasing through contracts with large food service companies. In this way, the institution acknowledges that systemic change takes time and that there are no shortcuts to sustained improvement. If Concordia University were to demand that local sustainable food be purchased on its terms, then, as witnessed at the University of Toronto, Chartwells will likely oblige due to market pressures.

For an institution to exercise its power and carve out space for local farmers, the development of sustainable food supply networks must also occur in parallel. This study found that local food infrastructures in Quebec are generally underdeveloped and farmers

must scale-up, or in other words, collectivize their approaches and resources to effectively move food from the farm to the university.

This study adds to the up and coming field of community food planning and strives to encourage more research in this discipline. Further research is needed in developing supply networks, issues relating to access and student affordability, the local food purchasing policies of other institutions, and the potential incorporation of other food products, other than produce, in farm-to-university programs. It is my hope that those engaged in future food studies will see the value of the planning perspective in creating more food secure communities.

This study has brought me to the conclusion that the path towards change can only be paved by those who are willing to challenge the dominant relationship which exists between Concordia University and food. In its current state, this relationship in which the institution assumes a minor role, will continue to enable Chartwells the freedom to structure its food purchasing model and supply networks in ways that ultimately lead to unsustainable outcomes. With a contract renewal process scheduled for 2015, a real opportunity exists for strengthening Concordia University's role to ensure space is created within its food service market for the purchasing of local food sourced through more sustainable supply networks. With this in mind, concerned stakeholders must begin acting now and work cooperatively so that this relationship can evolve to include concerns for where food is grown, how it is grown, who is growing it, and ultimately who benefits from the production, distribution and consumption of food served on campus.

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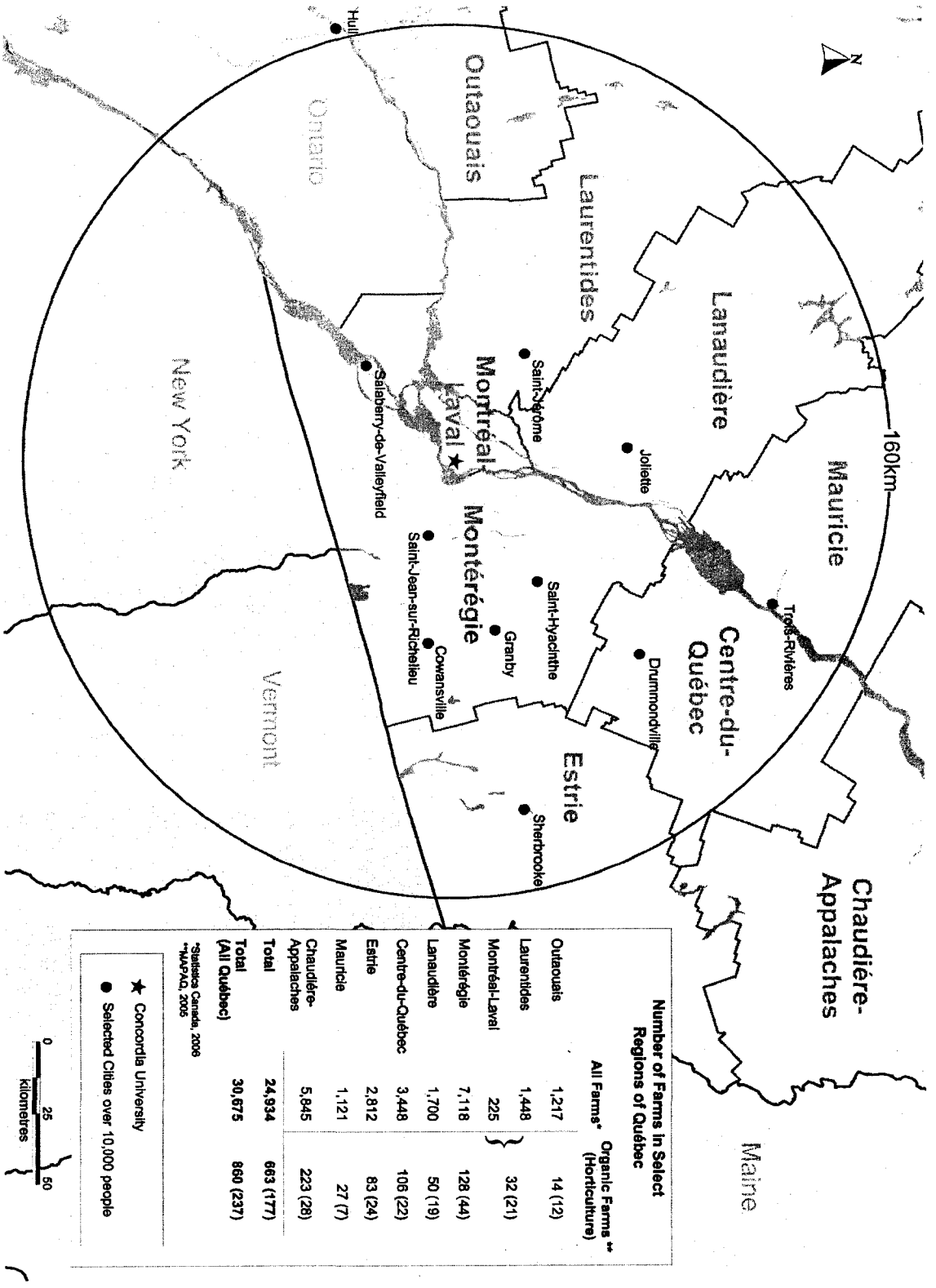
APPENDIX A: CONCORDIA UNIVERSITY AND SURROUNDING REGIONS



APPENDIX B: INTERVIEW QUESTIONS

Director of Auxiliary Services - Concordia University

Background

1. Can you define the roles of the University and Chartwells in providing food services at Concordia? What is the nature of this relationship?

2. How did you become involved and what is your role in this area?

Farm-to-University Programs and Related Concepts

3. Can you describe your interest in a farm-to-university program and having local organic food available on campus? Would it contribute to any institutional goals or objectives?

4. In your opinion, how can institutional purchasing of local organic food contribute to sustainable communities?

5. Are there opportunities for Concordia to undertake a farm-to-university program?

6. Are there any policies or projects that are currently in place that might provide an impetus to the development of a farm-to-university program in any way?

7. Generally speaking, is a farm-to-university program and local organic food purchasing something that would likely find widespread support in the University?

8. What do you see as the major barriers to the development of a farm-to-university program at Concordia? What do you think would be needed to overcome these barriers?

9. From your experience, do you think there is consumer demand for local organic food? Would you like to see more? Do you have any ideas as to how to make that happen?

10. In your opinion, would extended community and policy support for institutional purchasing of local organic food be beneficial? What would you like to see happen? Do you have any ideas about how to make that happen?

11. Do you have anything else you would like to say or any comments you would like to add about what we have been talking about?

Environmental and Sustainability Coordinators - Concordia University

Background

1. Tell me how you got involved in sustainable campus efforts at Concordia and what you see as your roles and responsibilities.

Farm-to-University and Related Concepts

2. Can you describe your interest in a farm-to-university program and having local organic food available on campus? Would it contribute to any institutional goals or objectives? What do you think the major benefits would be?

3. How would a farm-to-university program contribute to building a sustainable community at Concordia University?

4. What do you see as the major barriers to the development of a farm-to-university program at Concordia? What do you think would be needed to overcome these barriers?

5. Do you think students would be interested in local sustainable food?

6. Are there opportunities for Concordia to undertake a farm-to-university program?

7. Is a farm-to-university program something administrators and other decision-makers are likely to support? What do they need to see? Do you know of other schools that are discussing local food purchasing?

8. Have you ever worked with Chartwells on any initiatives?

9. Are there any other policies or programs in place currently that would support local sustainable food purchasing and the development of a farm-to-university program in any way? Any opportunities?

10. Do you have anything else you would like to say or any other comments you would like to add?

Senior Food Service Director - Chartwells

Background

1. How did you get involved in food and the food service sector? How long have you been at Concordia? What is your role?

2. Can you define the role of your company in providing food services at Concordia? What is it responsible for? Has the operation changed at all since the contract began? How does your operation change in the summer months?

3. What is the nature of your relationship with Concordia staff and administration?

Nature of Food Service Operation at Concordia

4. What is the process by which your company purchases food for its operations, particularly fruits and vegetables? Is this process different for day-to-day operations than say catering events such as conferences or special events in any way?

5. Can you describe the policies, standards, and/or criteria which govern the way your operation purchases food? What are the most important factors you consider when purchasing fruits and vegetables?

6. How are food deliveries received? Does the University restrict delivery times, number of trucks, or number of deliveries in any way? Are there any other barriers to food deliveries that you experience?

7. Who are your preferred food suppliers? What do you look for in a supplier and how are they selected? Do different suppliers fulfill different operational needs or goals?

8. Can you describe the food storage facilities (dry and cold) in the kitchens at both SGW and Loyola? What are they mainly used for and are they sufficient?

9. Can you give me an overview of the labour situation at your operation? How are students involved? Are there employees that prepare whole fruits and vegetables (i.e. wash and cut)?

10. Does your operation experience any other major constraints that you can think of?

Local Food and Farm-to-University Program Development

11. Can you describe your interest in a farm-to-university program and having local organic food available on campus? Would it contribute to any goals or objectives?

12. Does your operation currently purchase any local conventional and/or local organic foods of any kind? If not, why? Are there any opportunities that you can think of where local foods could be incorporated into your operation in any way?

13. Do your suppliers carry local foods and are they accessible? Do your suppliers or your parent company encourage local food purchasing in any way that you know of?

14. Generally speaking, do you think there is consumer demand for local foods in an institutional environment/in society in general? Would you like to see demand increase at Concordia? Do you have any ideas how to make this happen?

15. Are you aware of any other institutional food services that have local food buying programs of any kind? If so, do any buy directly from the farm?

16. Is there potential to source local fruits and vegetables from non-conventional, direct-market sources such as local farms, farmers' markets, or farm co-ops etc? What do you see as the major barriers to establishing such relations? Do you have any suggestions how to overcome any of these barriers?

17. Do you see any benefits to local food purchasing, particularly from direct market sources? If there was an opportunity to purchase directly from a farm, do you have any ideas about how you might promote and incorporate that food into your operation?

18. In your opinion, would extended community and policy support for institutional purchasing of local food be beneficial? What would you like to see happen? Do you have any ideas about how to make that happen?

19. Is your operation involved in any other campus sustainability or community initiatives? What is the nature of your involvement?

20. Do you have anything else you would like to say or any comments you would like to add about what we have been talking about?

Project Coordinator - Équiterre

Background

1. Tell me about Équiterre's Ecological Agriculture Program? How did it start? What were the motivations behind it? How has it developed?

2. How did you get involved? What is your role?

About the Program and Current Initiatives

3. In your own words, how does local, organic food contribute to Équiterre's philosophy and objectives?

4. Do you think there are issues of food system sustainability and food security in Quebec? What are the key issues in your opinion?

5. How is Équiterre involved in efforts to enhance food system sustainability and food security in Quebec? Who are your main partners in these efforts?

Local Organic Food and Public Institutions

6. Can you tell me about Équiterre's proposed pilot project regarding institutional purchasing of local organic food?

7. What would Équiterre's role be in such an initiative? What other actors or stakeholders would be involved?

8. How can institutional purchasing of local organic food contribute to food system sustainability and food security?

9. What barriers do you see in developing this project? What do you think it would take to overcome these barriers?

10. Are there any strategies that universities could explore that could help make institutional purchasing of local organic food a more feasible option?

Local Food Systems and Organic Agriculture in Quebec

11. In your opinion, is the current food system supportive of, or conducive to, ideas of local organic agriculture and food systems?

12. What barriers do you see in creating more local food systems in Quebec? What do you think needs to be done to address these barriers?

13. Do you think there is sufficient government policy and community support for local organic agriculture and local food systems development?

14. What opportunities are there, or what room is there for creating a more local food system in Quebec? What trends do you see emerging?

15. Do you have anything else you would like to say or any other comments you would like to add?

Local Organic Farmers - Members of Équiterre's CSA Network

Background Questions

1. Tell me about your farm? What do you produce? What is the size of the farm?

2. How long have you been farming? What made you decide to go into farming?

3. Has your farm changed, or the operation of your farm changed at all since you started farming?

Local Food Questions

4. Where do you currently sell or distribute your farm products? Has that always been the case? Has it changed at all?

5. Would you like to be able to sell more of your products locally? Why or why not?

6. From your experience, what are some of the barriers, problems, or constraints that farmers face when trying to sell their products locally?

7. Are there opportunities here, in Montreal and in the surrounding regions, to sell locally? What other opportunities would you like to see in the future?

8. What would it take to make those opportunities a reality? Do you think it is feasible?

9. Do you think there is consumer demand for local products? Would you like to see more? Do you have any ideas about how to make that happen?

10. Is there extended community and policy support for local farmers, local agriculture, and local distribution and consumption? Is it sufficient?

11. What else would you like to see in terms of community and policy support for local farmers, local agriculture, and local distribution and consumption? What would be helpful?

12. Where do you see agriculture headed? In your opinion, what are some of the major trends? What would you like to see change (or remain the same)?

Farm-to-University Questions

13. Have you ever considered selling your farm products to institutional markets such as universities, schools, day cares, hospitals etc? Is this something that interests you or would interest other farmers? Why or why not?

14. In your opinion, what are some of the barriers, problems, or constraints that farmers might face when trying to sell their products to institutional markets? What would be needed to overcome these barriers?

15. In your opinion, are there opportunities for local farmers to sell their farm products to institutional markets? Would you like to see these opportunities expand in the future?

16. What would it take to make that happen? Do you think it is feasible?

17. Do you think university students, faculty, staff, and administration are the types of consumers who would demand local organic food? Would you like to see demand increase? Do you have any ideas about how to make that happen?

18. If Concordia University wanted to undertake a "farm-to-university" pilot project, are there any suggestions or strategies you can think of that might help make that happen? How could they make initial connections with farmers?

19. Do you have anything else you would like to say or any comments you would like to add about what we have been talking about?

LOCAL SUSTAINABLE FOOD QUESTIONNAIRE

BACKGROUND INFORMATION

1. Please circle whether you are a **Student**, a **Staff** member, a **Faculty** member, or a member of **Administration**

2. Sex (please circle): **M / F**

3. When I make food choices on campus, I consider the following factors (1 = not important / 5 = very important):

	Not Important		Important		Very Important
	1	2	3	4	5
Appearance	☐	☐	☐	☐	☐
Convenience	☐	☐	☐	☐	☐
Taste	☐	☐	☐	☐	☐
Organic/Sustainable	☐	☐	☐	☐	☐
Price	☐	☐	☐	☐	☐
Freshness	☐	☐	☐	☐	☐
Locally grown	☐	☐	☐	☐	☐
Nutritional value	☐	☐	☐	☐	☐
Other:_____	☐	☐	☐	☐	☐

AGRICULTURE

Statements	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
4. I am concerned about the loss of farm land in Québec and in the rest of Canada.	☐	☐	☐	☐	☐
5. It is important to keep farming a viable activity in Québec and in the rest of Canada.	☐	☐	☐	☐	☐
6. Purchasing locally grown food is an effective way to keep local farms viable.	☐	☐	☐	☐	☐

LOCAL AND SEASONAL FOOD

7. What does "locally grown food" mean to you?

8. What locally grown or raised foods can you think of that are available to purchase in Montréal during the fall and winter seasons?

Fall:

Winter:

Statements	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
9. When fruits and vegetables are shipped long distances, they lose nutritional value.	☐	☐	☐	☐	☐
10. When fruits and vegetables are shipped long distances, they lose taste.	☐	☐	☐	☐	☐
11. Locally grown fruits and vegetables are fresher than those shipped long distances.	☐	☐	☐	☐	☐
12. Locally grown fruits and vegetables are produced using fewer chemicals than those shipped long distances.	☐	☐	☐	☐	☐
13. Knowing where my food comes from and how it is produced is important to me.	☐	☐	☐	☐	☐

13b. Can you tell me more about your answer to Question 13 above?

SUSTAINABILITY AND FOOD

14. If we understand a "food system" as including the production, processing, distribution, retailing, and consumption of food, and the eventual disposal of food waste, what does a "sustainable food system" mean to you? What might be some of its components?

Statements	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
15. The "true" environmental costs of producing, processing, and distributing food in today's food system is factored into the price we pay for food.	☐	☐	☐	☐	☐
16. The food choices consumers make can affect how our food is produced, processed, and distributed.	☐	☐	☐	☐	☐
17. Consumers should have greater access to local sustainable food.	☐	☐	☐	☐	☐
18. Food services at hospitals, daycares, schools, universities, and other public institutions should serve local sustainable food wherever possible.	☐	☐	☐	☐	☐

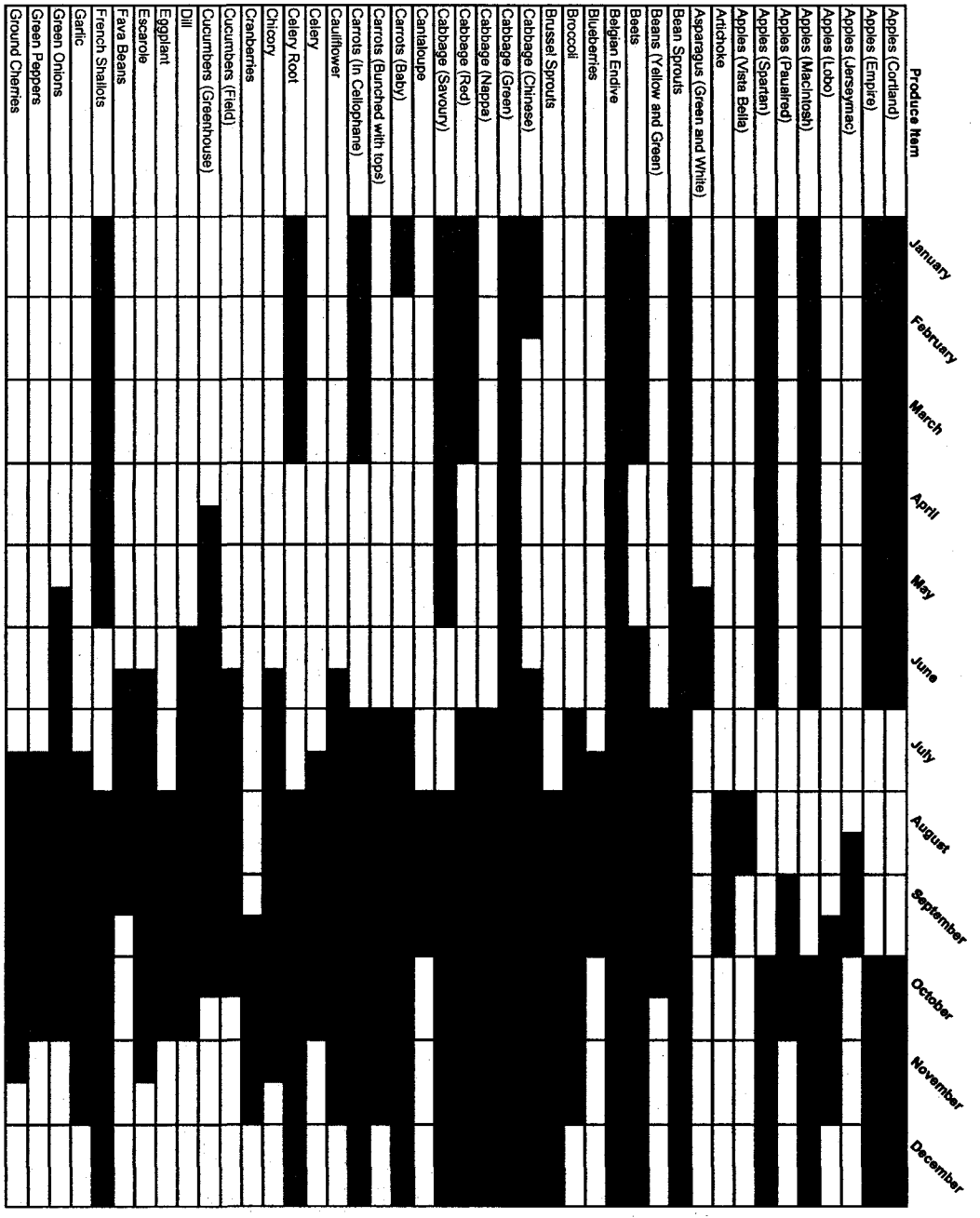
19. Would you be willing to pay more for local sustainable food?
(Please circle appropriate response)

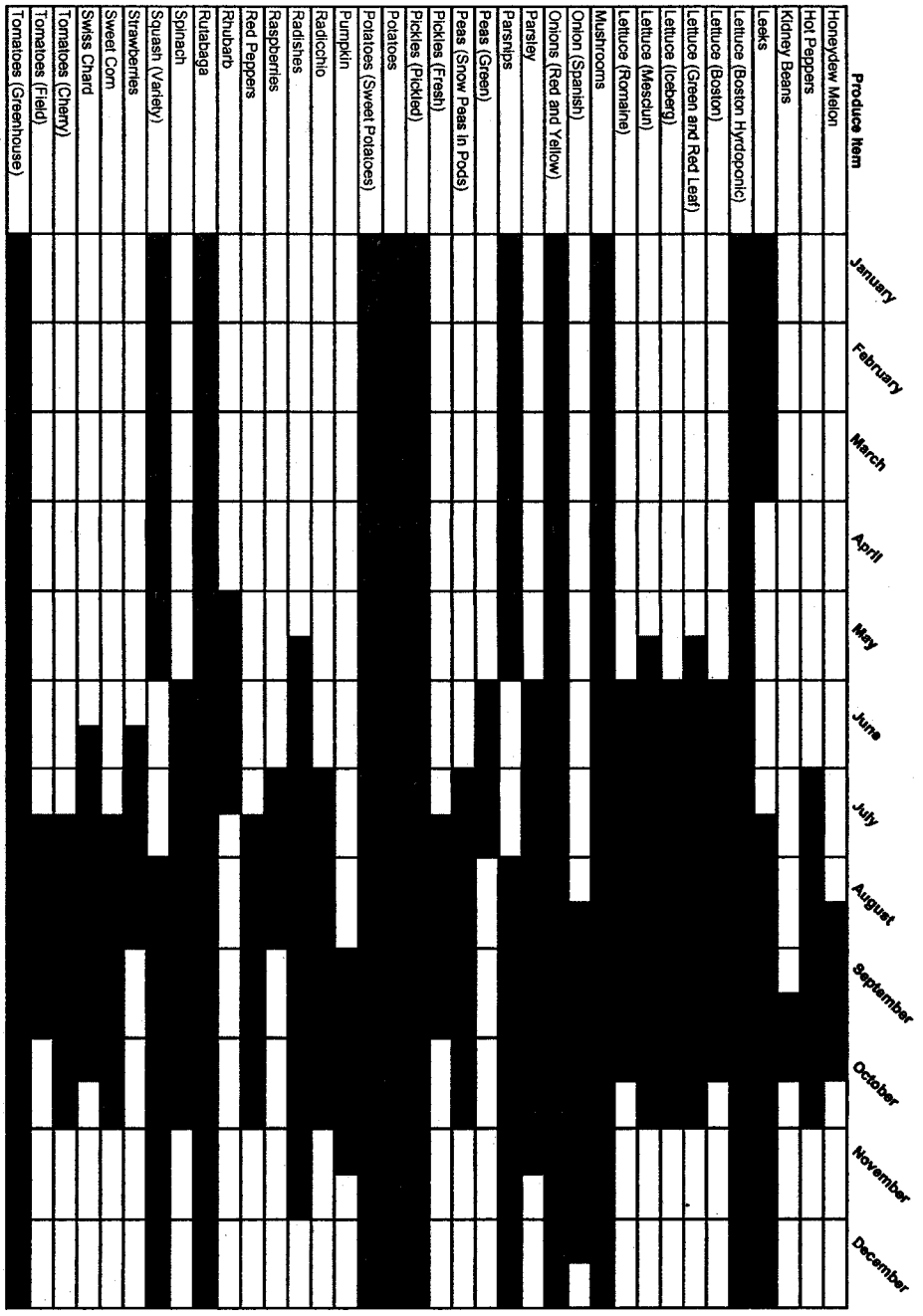
• Assuming a salad cost $3.50, I would accept the following price increase if that salad was made using locally sourced sustainable produce:	No price increase	25¢	50¢	75¢	$1.00	$1.25
• Assuming an apple cost 98¢, I would accept the following price increase if that apple was sourced locally and produced using sustainable methods:	No price increase	7¢	14¢	21¢	28¢	35¢

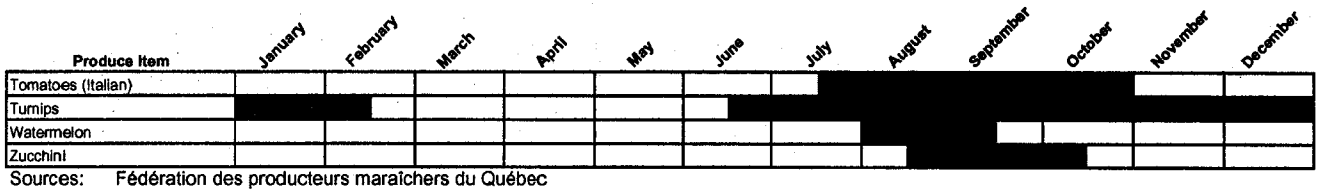
20. Approx. how much income do you earn in one year?

- ☐ $50,000 or more
- ☐ $35,000 to $50,000
- ☐ $20,000 to $35,000
- ☐ $10,000 to $20,000
- ☐ Less than $10,000

APPENDIX D: QUEBEC PRODUCE SEASONALITY




Produce Item
January
February
March
April
May
June
July
August
September
October
November
December
Honeydew Melon
Hot Peppers
Kidney Beans
Leeks
Lettuce (Boston Hydroponic)
Lettuce (Boston)
Lettuce (Green and Red Leaf)
Lettuce (Iceberg)
Lettuce (Mesclun)
Lettuce (Romaine)
Mushrooms
Onion (Spanish)
Onions (Red and Yellow)
Parsley
Parsnips
Peas (Green)
Peas (Snow Peas In Pods)
Pickles (Fresh)
Pickles (Pickled)
Potatoes
Potatoes (Sweet Potatoes)
Pumpkin
Radicchio
Radishes
Raspberries
Red Peppers
Rhubarb
Rutabaga
Spinach
Squash (Variety)
Strawberries
Sweet Corn
Swiss Chard
Tomatoes (Cherry)
Tomatoes (Field)
Tomatoes (Greenhouse)



Sources: Fédération des producteurs maraîchers du Québec
Association des jardiniers maraîchers du Québec
Fédération des producteurs de pommes du Québec

APPENDIX E: SURVEY RESPONSES

N=150

Question:

1. Participants: 100% Students

2. Sex: Male (48%), Female (52%)

3. When I make food choices on campus, I consider the following factors (1 = not important / 5 = very important):

Number of Responses:

Score	1	2	3	4	5	Sum (# of responses X score)
Appearance	9	16	46	51	28	523
Convenience	0	16	53	43	38	553
Taste	0	3	19	45	83	658
Organic/Sustainable	18	28	45	34	25	470
Price	1	6	33	45	65	617
Freshness	0	3	22	42	83	655
Locally grown	44	47	34	16	9	349
Nutritional Value	5	10	42	35	58	581
Other: Minimal Packaging					2	10

Statements (5 point Likert responses)
Note: The percentages may not add up to 100 percent because of rounding errors.

	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
4. I am concerned about the loss of farm land in Quebec and in the rest of Canada.	0%	5%	33%	41%	21%
5. It is important to keep farming a viable activity in Quebec and in the rest of Canada.	1%	1%	15%	44%	40%
6. Purchasing locally grown food is an effective way to keep local farms viable.	1%	1%	15%	50%	33%
9. When fruits and vegetables are shipped long distances, they lose nutritional value.	5%	22%	27%	35%	10%
10. When fruits and vegetables are shipped long distances, they lose taste.	3%	21%	19%	41%	15%
11. Locally grown fruits and vegetables are fresher than those shipped long distances.	2%	7%	13%	42%	36%
12. Locally grown fruits and vegetables are produced using fewer chemicals than those shipped long distances.	5%	27%	30%	23%	14%

	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
13. Knowing where my food comes from and how it is produced is important to me.	3%	11%	22%	37%	28%
15. The "true" environmental costs of producing, processing, and distributing food in today's food system is factored into the price we pay for food.	13%	23%	21%	34%	9%
16. The food choices consumers make can affect how our food is produced, processed, and distributed.	1%	4%	13%	48%	34%
17. Consumers should have greater access to local sustainable food.	1%	1%	19%	47%	32%
18. Food services at hospitals, daycares, schools, universities, and other public institutions should serve local sustainable food wherever possible.	1%	3%	25%	39%	33%

19. Would you be willing to pay more for local sustainable food?

	No price increase	25¢	50¢	75¢	$1.00	$1.25
• Assuming a salad cost $3.50, I would accept the following price increase if that salad was made using locally sourced sustainable produce:	25%	24%	31%	11%	7%	1%

	No price increase	7¢	14¢	21¢	28¢	35¢
• Assuming an apple cost 98¢, I would accept the following price increase if that apple was sourced locally and produced using sustainable methods:	24%	33%	25%	7%	5%	3%

20. Approx. how much income do you earn in one year?
(Note: 9 students did not respond)

0%	$50,000 or more
1%	$35,000 to $50,000
8%	$20,000 to $35,000
28%	$10,000 to $20,000
63%	Less than $10,000

Written Responses

7. What does "locally grown food" mean to you?
(Below are themes and sample responses. Note that some responses have multiple themes. 9 students did not respond to this question)

Theme 1: Geographically Defined

- Food grown by Quebec /Montreal farmers (Student #81)
- 250km radius from my home in NDG (Student #133)

Theme 2: Freshness

- Food that is fresh, not flown in or other means of transportation (Student #125)

Theme 3: Healthy Rural Communities and Farmer Livelihoods

- Locally grown food not only supplies us with nutritional sources of food, but also strengthens our farmers jobs. Local agriculture also aids in strengthening our economy, where we import less than we export (Student #67)
- To me it means more local jobs, stronger rural areas as well as it means fresher food for people (Student #134)

Theme 4: Nutritious and Healthy Food

- Food which is nutritious and healthy (Student #40)

Theme 5: Alternative Production Methods

- Food grown by local farmers or producers. Usually I associate the term with organically-grown food (Student #61)
- Grown within the backyard/field of an individual that doesn't use pesticides or is in any way tied to a corporation (Student #79)

8. What locally grown or raised foods can you think of that are available to purchase in Montreal during the fall and winter seasons?

Top 10 Items (Based on # of responses. Note: 23 students did not respond to this question)

Fall		Winter	
Apples	84	Maple Syrup	25
Squash	34	Potatoes	16
Corn	32	Apples	15
Potatoes	27	Milk	12
Milk	16	Cheese	10
Carrots	14	Carrots	8
Strawberries	11	Chicken	7
Tomatoes	9	Eggs	7
Cheese	8	Beef	6
Broccoli	7	Squash	6
Lettuce	7		
Onions	7		

13b. Can you tell me more about your answer to Question 13 above?
(Below are sample responses organized by how students answered the first part of question 13. Note: 30 students did not respond to this question).

If answer was Agree or Strongly Agree

- I study geography and I am interested in rural character. We need solutions that can get farmers a better deal. So when I buy local goods, I can be sure the farmer benefits (Student #123)
- If by my purchasing I can encourage practice that are more sustainable or environmentally friendly, I will because I definitely think we all need to change current practices that are creating pollution, loss of bio-diversity, soil erosion, etc. (Student #126)
- It is important to me because buying local food helps the local economy, doesn't support the export of food from developing countries, is more environmentally sound

(less transportation and pollution), and is healthier for our bodies because it is the food that is fit for consumption in this climate (Student #100)

- I would like to know whether my food has been genetically modified (Student #119)
- Animal treatment. Use of chemicals and GM food - high concern on environment and health. (Student #54).
- I am a vegetarian. I've heard about animal by-products infused in food and want to avoid putting them in my body (Student #31)
- Yes. It is important. I like to know what I am getting. But finding out this information is difficult (Student #136)

If answer was Disagree, Strongly Disagree or Neutral

- Actually, I really do not pay attention to where food is grown when buying. I pay more attention to quality (Student #4)
- I never really took an interest. As long as it looks "normal" (Student #7)
- Doesn't really matter just as long as it's fresh and not a danger to my health (Student # 57)
- Seriously, I don't care, its food (Student #103)
- If I cared, I would always buy from Jean Talon or Atwater, but I don't because I have no time (Student #128)
- The taste and look of the food is all that is important (Student #107)
- In general, I don't think of it, I just eat what I want when I'm hungry (Student #47)

14. If we understand a "food system" as including the production, processing, distribution, retailing, and consumption of food, and the eventual disposal of food waste, what does a "sustainable food system" mean to you? What might be some of its components?

(Below are themes and sample responses. Note that some responses have multiple themes. 55 students did not respond to this question).

Theme 1: Freshness and Quality

- A system that ensures that the food I eat is as fresh, nutritionally sound and non-processed as possible and disposed in an environmentally safe way (Student #51)

Theme 2: Reduction in Food Transportation/Fossil Fuel Usage

- Food that does not spend days being transported (greenhouse gases - global warming due to exhaust emissions from trucks)! (Student #136)

Theme 3: Consistent Food Supply for the Present and Future

- Meaning - a system that facilitates health in the population while being environmentally and economically sustainable over time. Components - reduced packaging, increased nutritional value, decreased waste (Student #52)

Theme 4: Healthy Rural Communities and Farmer Livelihoods

- One that is supported by the local economy and that is environmentally positive (Student #112)
- A system where farmers can continue to work the land and get their fair share(Student #127)

Theme 5: Alternative Production Methods

- Not using pesticides - use organic manure. Get all products locally first, then import what we cannot get here. Good waste management (Student #126)
- Food that is produced without chemicals or GMOs that is healthy and un-altered (Student #117)

Theme 6: Reduction in Waste/Increase in Composting

- Does not waste resources such as water, soil, space, like hydroponics the same waste can be used to grow tomatoes, corn, strawberries in a small space leaving plenty of room to grow yummy cows, the cow poo can be used to fertilize organic veggies which ca be used to feed the cows and be sold in grocery stores (Student #78)

Theme 7: Food that is Easily Accessible

- Easy access to local foods. Local foods available in stores, not just farmers markets. Composting. (Student #53)

Theme 8: Contributes to Environmental and Human Health

- Food that is not harmful to people or the earth in as many stages as possible. Composting where possible (Student #42)

Theme 9: Local Production and Consumption

- More locally grown and supported farms producing more and being marketed. Development of organic, permaculture and other forms of agricultural technology (Student #35)
- To me, a sustainable food system would keep everything local (production processing etc). Not packaged, using little or no chemicals, being easily accessible by the public, and ending with the 'disposal' being in the form of compost - the production must not deplete the land.(Student #100)

APPENDIX F: PRODUCE PURCHASING DATA SUMMARY

	PRODUCE ITEM	Seasonal Purchases			Non-Seasonal Purchases	TOTAL	Price Fixed Amount
		Local	Non-Local	Unspecified Origin			
1	Lettuce	989.20	880.96	1,107.60	6,251.33	9,229.09	6,857.77
2	Tomatoes	312.75	7,760.35			8,073.10	6,883.87
3	Cucumber		1,030.28		2,751.43	3,781.71	3,580.42
4	Mushrooms		2,329.13	1,193.48		3,522.61	2,869.23
5	Broccoli	859.71	716.90		1,536.62	3,113.23	2,626.13
6	Celery	664.40	181.20		1,900.71	2,746.31	2,383.91
7	Green Peppers	20.80	25.55	607.19	1,830.66	2,484.20	
8	Watermelon		846.05		1,551.05	2,397.10	
9	Red Peppers	321.07	194.15	199.45	1,557.79	2,272.46	
10	Cauliflower	570.24	378.90	25.26	1,160.00	2,134.40	1,780.76
11	Apples	162.56	1,965.56			2,128.12	
12	Onion	307.55	389.60	1,397.50		2,094.65	1,442.95
13	Strawberries		55.25		1,953.89	2,009.14	
14	Red Grapes				1,975.47	1,975.47	
15	Pineapples				1,859.40	1,859.40	
16	Zucchini	565.65	73.37	17.95	1,173.47	1,830.44	
17	Green Grapes				1,758.58	1,758.58	
18	Potatoes	1,192.14		269.08		1,461.22	659.12
19	Spinach		292.75		783.20	1,075.95	
20	Honeydew Melon		360.31		649.57	1,009.88	
21	Oranges				964.55	964.55	
22	Cantaloupe	79.30	89.72		743.88	912.90	
23	Carrots	23.37	230.65	105.00	264.38	623.40	105.00
24	Eggplant	62.52	36.76		515.28	614.56	
25	Snow Peas		50.00		341.30	391.30	
26	Squash	86.60	154.10	29.50	96.65	366.85	
27	Garlic		109.89		196.31	306.20	
28	Bananas				263.86	263.86	
29	Blueberries				251.50	251.50	
30	Parsley		63.75		126.25	190.00	
31	Endive	35.19	94.45			129.64	
32	Bean Sprouts	120.57				120.57	
33	Radishes	77.50			39.20	116.70	
34	Asparagus				106.90	106.90	
35	Shallots		100.66			100.66	
36	Avocado				90.70	90.70	
37	Cabbage	87.88				87.88	78.75
38	Lemons				77.97	77.97	
39	Kiwi				72.00	72.00	
40	Peas				65.00	65.00	
41	Limes				62.36	62.36	
42	Cherries				49.75	49.75	
43	Figs				39.50	39.50	
44	Leeks	20.37	12.40			32.77	
45	Green Beans				30.50	30.50	
46	Turnip	25.95				25.95	
47	Cranberries	23.88				23.88	
48	Star Fruit				23.50	23.50	
49	Raspberries				19.96	19.96	
50	Pears				19.18	19.18	
51	Yellow Pepper				13.50	13.50	
52	Parsnips	5.00				5.00	

PRODUCE ITEM	Seasonal Purchases		Unspecified Origin	Non-Seasonal Purchases	TOTAL	Price Fixed Amount
	Local	Non-Local				
53 Chervil				3.90	3.90	
54 Beets	3.40				3.40	
55 Chives	1.50				1.50	
TOTAL	**$6,619.10**	**$18,422.69**	**$4,952.01**	**$33,171.05**	**$63,164.85**	**$29,267.91**